HAWAII COMMUNITY DEVELOPMENT AUTHORITY

KAKAAKO
Where Honolulu Greets The Sea

MAUKA AREA PLAN

Kakaako Community Development District

Honolulu, Hawaii

UNOFFICIAL COMPILATION

AUGUST 1999

HAWAII COMMUNITY
DEVELOPMENT AUTHORITY

KAKAAKO
Where Honolulu Greets The Sea.

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KAKAAKO COMMUNITY DEVELOPMENT DISTRICT

UNOFFICIAL COMPILATION OF THE MAUKA AREA PLAN

This is the 1999 edition of the Unofficial Compilation of the Mauka Area Plan. The Mauka Area Plan is part of the Hawaii Administrative Rules (HAR): Title 15, Department of Business, Economic Development & Tourism; Subtitle 4, Hawaii Community Development Authority (HCDA); Chapter 22, Mauka Area in the Kakaako Community Development District.

This edition includes amendments as of August 1999. See Index of Amendments for a description of the amendments. The official Mauka Area Plan and its amendments are on file at the Office of the Lieutenant Governor and may also be reviewed at the HCDA office.

Jan S. Yokota
Executive Director

KAKAAKO COMMUNITY DEVELOPMENT DISTRICT

UNOFFICIAL COMPILATION
OF THE
MAUKA AREA PLAN

INDEX OF AMENDMENTS

The Mauka Area Plan, compiled as of February 14, 1990, has subsequently been amended by the following:

SUBJECT	EFFECTIVE DATE
Koula Street	July 16, 1990
Kamakee Street	September 5, 1997
Queen Street and Halekauwila Street Couplet	August 3, 1999

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INTRODUCTION

Purpose and Legislative Intent

The mention of Kakaako brings to mind a number of striking images. It is a center of employment for over 18,500 people, and home for over 2,200 people. Centrally located in Honolulu's urban corridor, it is surrounded by focal points of tourism, recreation and retail trades; the downtown business and government center; the high density residential area; and the waterfront area. Despite its prime location, today it is a relatively underutilized and underdeveloped area as a result of low-scale transition from residential to industrial to commercial uses during the past 50 years.

In recent years there has been much study and debate about Kakaako's relative underdevelopment; its future; and its potential to become a blighted and deteriorated area if not redeveloped or renewed. Yet, despite the high degree of interest in and concern for Kakaako and the myriad of ideas as to how it could best be developed, a community consensus for the area was never achieved.

In 1976 the Legislature recognized the lack of timely revitalization of underutilized urban communities in the State, and determined that a new concept of urban planning and redevelopment was needed to supplement traditional methods of community redevelopment. Therefore, by authority of Chapter 206E, Hawaii Revised Statutes, the Legislature created the Hawaii Community Development Authority, an innovative agency which would "join the strengths of private enterprise, public development and regulation into a new form capable of long-range planning and implementation of improved community development..."

The Authority's responsibility is to plan and implement community development programs for areas designated as by the Legislature. In 1976, the Legislature designated the Kakaako area as the first community development district. The original Kakaako Community Development District is the area bounded by Piikoi Street, Ala Moana Boulevard, Punchbowl Street and King Street (Figure 1). This area, hereinafter referred to as the "Mauka Area" (toward the mountains), is subject to the "Kakaako Community Development District Plan, Mauka Area." In 1982 and 1987, the Legislature amended the Kakaako Community Development District to include land makai (toward the sea) of Ala Moana Boulevard between Ala Moana Park and the Aloha Tower. This area, referred to as the "Makai Area", includes Kewalo Basin, the entire

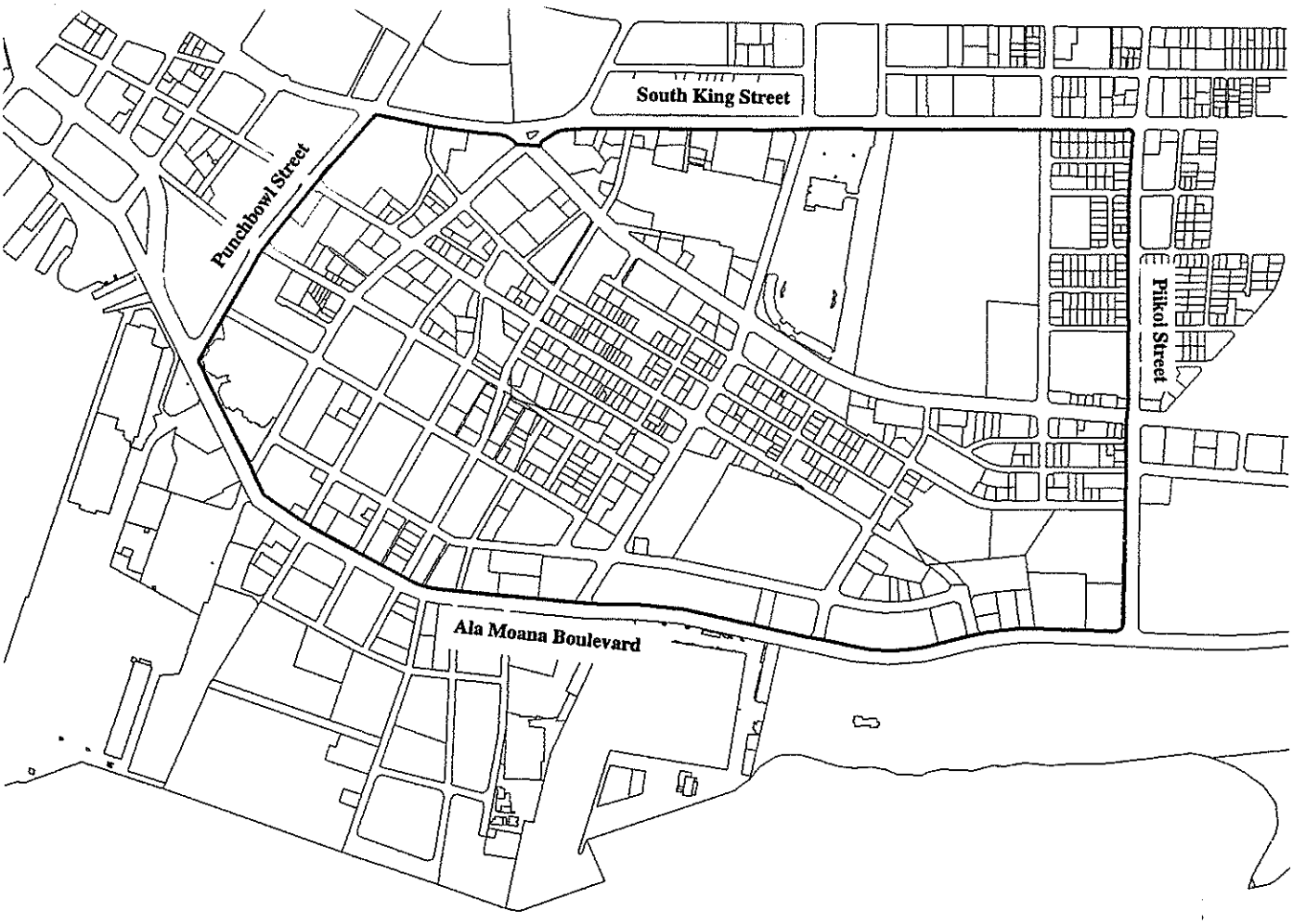

Figure 1: Boundary Map

Kakaako Peninsula and the waterfront areas between Fort Armstrong and the Aloha Tower. The Makai Area is subject to the "Kakaako Community Development District Plan, Makai Area". The combined areas of the Mauka Area and Makai Area comprise the Kakaako Community Development District, hereinafter referred to as the "Kakaako District" or "District".

The Legislature found in the Mauka Area "the potential for increased growth and development that can alleviate community needs such as housing, parks and open space, and commercial and industrial facilities".

Development guidance policies were established by the Legislature to govern the Authority's planning and development activities for the Mauka Area. These policies are found in Section 206E-33, HRS, and are expressed as follows:

(1) Development shall result in a community which permits an appropriate land mixture of residential, commercial, industrial and other uses. In view of the innovative nature of the mixed-use approach, urban design policies should be established to provide guidelines for the public and private sectors in the proper development of this District; while the Authority's development responsibilities apply only to the area within the District, the Authority may engage in any studies or coordinative activities permitted in this chapter which affect areas lying outside the District, where the Authority in its discretion decides that such activities are necessary to implement the intent of this chapter. Such studies or coordinative activities shall be limited to facility systems, resident and industrial relocation, and other activities with the counties and appropriate state agencies. The Authority shall not engage in any construction activities outside of the District;

(2) Existing and future industrial uses shall be permitted and encouraged in appropriate locations within the District. No plan or implementation strategy shall prevent continued activity or redevelopment of industrial and commercial uses which meet reasonable performance standards;

(3) Activities shall be located so as to provide primary reliance on public transportation and pedestrian facilities for internal circulation within the District or designated subareas;

(4) Major view planes, view corridors, and other environmental elements such as natural light and prevailing winds, shall be preserved through necessary regulation and design review;

(5) Redevelopment of the District shall be compatible with plans and special districts established for the Hawaii Capital District, and other areas surrounding the District;

(6) Historic sites and culturally significant facilities, settings, or locations shall be preserved;

(7) Land use activities within the District, where compatible, shall to the greatest possible extent be mixed horizontally, that is, within

blocks or other land areas, and vertically, as integral units of multi-purpose structures;

(8) Residential development shall ensure a mixture of densities, building types, and configurations in accordance with appropriate urban design guidelines; integration both vertically and horizontally of residents of varying incomes, ages, and family groups; and an increased supply of housing for residents of low- or moderate-income shall be required as a condition of redevelopment in residential use. Residential development shall provide necessary community facilities, such as open space, parks, community meeting places, child care centers, and other services within and adjacent to residential development;

(9) Public facilities within the District shall be planned, located, and developed so as to support the redevelopment policies for the District established by this chapter and plans and rules adopted pursuant to it.

These policies established the Legislature's vision and sense of direction as to how the future development of the Mauka Area can best serve the needs of Hawaii's people. The Legislature's underlying objective was to create in the Mauka Area a truly high quality community that is both a credit and benefit to our State.

Primary guidelines for the area's future development are provided by Chapter 206E, HRS. Additional guidance was also provided by the policies stated in the State plan, City and County General Plan, Honolulu City Council Resolution 77-504, City and County of Honolulu Comprehensive Zoning Code, Hawaii Capital District Ordinance No. 77-60, Thomas Square/Academy of Arts District Ordinance No. 78-18, and the House Concurrent Resolution No. 118 of the State Legislature.

This document is the end product of the Authority's action carrying out the specific legislative mandates to prepare a development plan for the Kakaako Community Development District.

The Planning Process

The Mauka Area project entailed the preparation of a plan for the 450-acre area, practically all of which is in need of improvements. The plan would include sufficient

detail to proceed into design and construction of specific development projects or infrastructure improvements after the plan is approved for implementation. To accomplish this task the Authority undertook a detailed, comprehensive and methodical planning program in July, 1977.

Phase I (Data Collection and Inventory) involved the inventory and documentation of the existing systems and resources in the Mauka Area. The data collected in Phase I have served as an important information base for use throughout the time frame of the project.

In Phase II (Capacity and Constraint Analyses), the Mauka Area's existing systems and resources were analyzed to determine their potential to accommodate or limit development as implied by current and proposed City and County policies, plans and ordinances.

Phase III (Formulation of Alternatives) involved the formulation of a wide range of options for the future development of the Mauka Area. These options or methods were combined and thoroughly tested through the use of prototypes for physical and economic feasibility and social acceptability. During this phase, the Authority solicited community concerns through a variety of ways including public meetings, dissemination of technical reports and newsletters, and personal interviews with individuals and groups.

In Phase IV (Finalization of the Mauka Area Plan), the Authority analyzed the alternative plans developed in Phase III and formulated a single draft plan. Public informational meetings and formal public hearings were conducted to solicit citizen input on the draft plan. After consideration of the comments received, the draft plan was further refined and finalized as the Mauka Area Plan.

The Mauka Area Plan

The Mauka Area Plan carries out the Legislature's vision of the future and provides the direction necessary to achieve Mauka Area's potential to become a new mixed-use community in Honolulu's central urban core. The Mauka Area Plan provides a framework for district-wide community development and improvements over the next thirty years, or until the year 2012, and serves as a decision-making tool to guide both public and private sector actions in the revitalization of the Mauka Area.

Intrinsic to the framework of the Mauka Area Plan is the emphasis on both "means" and "ends" aspects of the Mauka Area redevelopment; both goal- and market-oriented perspectives; both short- and long-range time frames; and both localized and areawide courses of action. The Mauka Area Plan integrates long-range planning and improvement with short-term implementation, and gives careful consideration to both public and private sector land development processes and actions.

Public and private sector cooperation is essential to the success of achieving the Mauka Area Plan objectives. With the dedication of the Authority and the complete and continued support of the Mauka Area community - its landowners, tenants, businessmen, employees, residents and visitors - the Mauka Area Plan and implementation program can be brought to fruition, resulting in the kind of community and urban environment that would alleviate the concerns expressed by the Legislature.

The Mauka Area Plan consists of three major parts. The first part describes all of the essential categories of concern or parts of the Mauka Area community which affect or would be affected by the redevelopment of the Mauka Area. More particularly, these categories include the following: Land Use; Transportation; Open Space; Urban Design; Housing and Housing Support Facilities; Utilities; Historic and Cultural Resources; Social and Safety Concerns; and Relocation. Each area of concern was studied individually as well as relative to each other so that collectively they address all aspects of community development and improvement. Each category is described in terms of related public concerns as expressed by Chapter 206E, HRS. These public concerns provide an indication of what the Legislature had in mind for the future Mauka Area community.

The second major part of the Mauka Area Plan is the Authority's District-Wide Improvement Program which deals with the implementation of necessary district-wide public facilities, such as roadways, utility systems, housing, parking garages, pedestrianways, and bikeways. Among the factors addressed are the costs of providing necessary public facilities, methods of financing those facilities, and the location and sequencing of public facility improvements.

The final major part of the Mauka Area Plan is the Authority's Community Development Rules which provide specifications and procedures on health, safety, building, planning, zoning, and land use. These rules will govern the implementation of all public and private sector actions in furtherance of the development guidance

policies and the objectives of the Mauka Area Plan. These rules will supersede all other inconsistent ordinances and rules relating to the use, zoning, planning, and development of land within the Mauka Area.

All parts of the Mauka Area Plan are mutually consistent and supportive. Moreover, they provide for the realization of improved community development in fulfillment of the directives of the Legislature, thereby ensuring a future Mauka Area community that serves the highest needs and aspirations of Hawaii's people.

PLAN POLICIES AND PROVISIONS

LAND USE PLAN

The Mauka Area is composed of an area of real estate with all its attendant attributes and features. Although a community is composed of residents, business establishments, workers, and visitors, most if not all activities of people are conducted in areas of space, of which land is the major part. Land is the base upon which buildings are constructed, streets and roads located, utility lines and systems embedded, parks and open space created, regulations imposed, taxes extracted, and capital invested, etc.

Land use deals primarily with the quantity or amount of space (measured by square footage of land and by square footage of building floor area), and the location and allocation of land area and/or building floor area for various defined categories of land use activities.

The Mauka Area presently contains 450 acres of land, 11.2 million square feet of privately owned developable land, 9.6 million square feet of floor space distributed among many different types of buildings, miles of streets, roadways and utility lines, public facilities, parks, schools, and other public property.

The State Legislature enacted development guidance policies to direct the Authority with respect to Mauka Area lands and their use. Pursuant to those policies, the Authority inventoried in detail all land parcels in the Mauka Area and abutting areas. This inventory enabled the Authority to define the present extent of land use mixing or lack thereof, the amount and distribution of existing industrial, commercial and residential uses, the nature and characteristics of existing transportation facilities, types of view planes and corridors, and other

environmental and natural resources in the Mauka Area. It also studied the land uses within and regulations applicable to the Hawaii Capital District and other surrounding areas, the historic sites and culturally significant sites and facilities, the characteristics and amount of existing and needed housing units, and the relationship of each type of land use to community facilities such as open space, parks, etc.

The Authority further studied the Mauka Area's physical, economic, and human resources to determine their full development potential and capacity to meet the objectives of Chapter 206E, HRS. This was done pursuant to the Legislature's desire that urban areas in the State which are substantially underdeveloped or blighted, or are potential economic or social liabilities because of present or impending dilapidation, deterioration and age be renewed to achieve a greater degree of productivity and address urgent public needs.

Based on such information and understanding the Authority defined and then examined a comprehensive range of feasible land development solutions which could address the objectives of the Legislature. Problems in which land or land use appeared to be a primary factor were addressed separately and collectively, and feasible solutions were formulated and described. These solutions were quantified in the form of development design and process prototypes or models, which allowed their testing individually, and in simulated combinations.

The solutions were then assembled into twelve land use plan variations for analytical and evaluation purposes. Six plan variations portrayed various district-wide end-state proposals possible under existing land use policies of the City and County of Honolulu. The remaining six variations portrayed different end-state proposals possible under the policies of Chapter 206E, HRS. Subsequently, these twelve plan variations were systematically reduced to four, then to two. Prior to each reduction, considerable analyses and evaluation occurred. The final combination of solutions was derived from the remaining two plan variations. This combination forms the substance of the land use plan described herein.

The quantity of floor area space needed for the projected district-wide business and housing development was determined by examining and evaluating total floor area in each plan variation. The total floor areas ranged from 14.3 to 44.2 million square feet. Cost-benefit and cost-effective analyses were used to evaluate the costs and benefits of maximum development under each total floor area alternative. The analyses showed that infrastructure

costs do not decrease substantially for those plan variations with total floor areas between 14.3 and 28.4 million square feet. For plan variations with total floor areas ranging between 39.8 and 44.2 million square feet, the analyses showed that infrastructure costs per square foot decreased somewhat but the aggregate economic return to the Mauka Area properties did not increase proportionally with the increases in total floor area. This was due primarily to the increased total floor area being put into residential use which in turn necessitated additional supporting public and community facilities.

Furthermore, plan variations with the greater range of total floor areas were characterized by excessive building bulk and a less desirable amount of open space. Therefore, a maximum total floor area of 35.4 million square feet was selected for this land use plan.

Land Use Proposal

The Land Use Plan for the Mauka Area was prepared in concert with its utility and transportation systems as well as the network of open spaces and public facilities. These systems and networks have been interrelated to be consistent with each other and to facilitate the development of a land use pattern that meets community needs and is efficient and economical.

A fundamental purpose of the Land Use Plan is the allocation of the 36.1 million square feet of floor area among the Mauka Area's three principal future land uses -- industrial, commercial and residential. This allocation was based on demand projected for different types of land uses within the Mauka Area and Central Oahu including the Honolulu District.

The need for commercial and industrial space in the Mauka Area was studied by John Child & Company, Inc. in 1980, in reference to State population and employment projections, and documented in their "Market Analyses for Commercial, Industrial and Service Activities" report to the Authority. The study compared the Mauka Area to other areas with respect to factors such as location, accessibility, and available development space. The areas compared included Makiki, Sheridan Tract, Downtown, Chinatown-Palama, Iwilei-Sand Island-Waiakamilo, Mokauea-Kalihi-Kai, and Aliamanu-Airport. They presently contain the majority of Oahu's light and service industrial, commercial office, and commercial retail space.

The study found that the Mauka Area has locational advantages unmatched by the other areas except possibly by the Downtown business district. This is due to the Mauka Area's central location with respect to major residential concentrations, retail markets, principal transportation systems including the Honolulu Harbor and Airport facilities, and major vehicular arterials serving urban Honolulu. These advantages also stem from the Mauka Area's closeness to Honolulu's business and financial hub, the Capital District, and Oahu's two largest retail areas (Ala Moana Center and Waikiki). The advantages relate to industrial activities, and to retail commercial and service commercial activities which have a significant growth potential in the Mauka Area.

The Mauka Area's locational advantage cannot be maximized primarily because of the existing physical conditions within the area and the types of uses currently permitted. Inadequate roads, drainage, parking, and lack of vacant space deter businesses from locating within the Mauka Area.

In addition, the Child study examined the island's requirements for commercial, industrial, and service space over the next 25 years. It found that the Mauka Area historically captured 12 percent of Oahu's total demand for commercial, light industrial, and service space. However, it was concluded that the Mauka Area's share of the future Oahu market demand can exceed 12 percent substantially because this plan's proposed infrastructure improvements and increases in community amenities would support such an increase.

There is also a strong demand for housing development in the Mauka Area. State of Hawaii projections indicate that Oahu's resident population may increase by more than 150,000 people between 1985 and 2000. More than 50,000 housing units will be needed to accommodate this population increase and expected changes in household sizes. The 50,000 units are in addition to the present housing shortage on Oahu. The Mauka Area's central Honolulu location makes it a prime candidate for additional housing units conveniently located near employment, especially in view of spiraling transportation and energy costs.

The following table presents an allocation of land uses as they could be in 25 to 30 years as compared to the existing floor area use.

FLOOR AREA

Land Use	Existing	Plan	
	Msf[a]/	Msf[a]/	Percent
Commercial	2.8	13.7	38
Industrial	4.6	5.3	15
Residential	1.1	17.1	47
TOTAL	8.5	36.1	100

a/ Million Square Feet

The projected commercial and industrial floor area is much more than the Mauka Area's historic 12 percent share of Oahu's total floor area requirement. As discussed above, this is not unreasonable given the Mauka Area's locational advantages and proposed infrastructure improvements over the next 25 to 30 years.

The allocated 17.1 million square feet of residential floor area represents approximately 19,000 housing units. To provide 19,000 housing units outside of the Mauka Area at single-family densities would require approximately 4,500 acres of land, much of which may presently be in agriculture. Providing the 19,000 units or any portion thereof in the Mauka Area has obvious Statewide benefits of directing needed growth into an underutilized urban area. Employees living in the Mauka Area would be closer to jobs, thereby conserving energy, and capitalizing upon public services, such as police and fire protection already in place.

The Mauka Area can accommodate approximately 19,000 housing units without sacrificing space needed for other uses and community amenities. The physical amenities contemplated for the Mauka Area and the creation of well serviced and designed neighborhoods within an urban setting will make the Mauka Area an especially desirable environment in which to live, work, and play.

In addition to the 47,500 residents living in the 19,000 housing units, the 19 million square feet of floor area that could be allocated for commercial and industrial uses would generate approximately 70,000 jobs. The result is a Mauka Area with a significantly larger population than today.

Planned commercial, industrial, and residential uses in the Mauka Area will occupy about 258 acres. Approximately 192 acres are allocated to other uses, of which 83 acres are for public roadways, and 109 acres for public parks, schools, and cultural facilities. Together, these uses cover the 450 acres.

In distributing mixed land uses throughout the Mauka Area, the Authority considered the locational requirements of industrial, commercial, and residential uses. The primary industrial locational concerns were access to major transportation corridors and ground locations to facilitate movement of bulk items. Commercial uses required high visibility locations along major transportation corridors with easy access for large populations. Residential uses did not need direct access to major transportation corridors, but required convenient and safe access to community facilities such as parks and open spaces.

These locational requirements coupled with the identified total floor area allocations indicate that a satisfactory mixing of uses can be accomplished, but that it must occur vertically as well as horizontally if the projected floor area allocated to each use is to be accommodated.

The Phase III studies of the land use compatibility and building prototypes found that mixed uses within a given parcel in certain commercial, industrial, and residential use combinations, can be compatible and functional if they are "stacked" upon each other or physically separated either vertically or horizontally. This compatibility analysis relied upon existing performance standards regarding noise, odor, and smoke and other environmental factors so that compatibility among mixed uses could be quantified. The analysis and subsequent design work produced solutions which allow the vertical and horizontal mixing of residential, commercial, and industrial activities.

The horizontal mixing of uses may be observed in contemporary land development patterns where street and lot lines separate uses, and entire sections of a community are allocated to respective single uses. The vertical mixing of uses is uncommon today, but is not a new concept. Mixes such as residences above shops were common in early American cities. This plan proposes a return to that form of community development.

The typical vertical mix in the Mauka Area would have light and service industrial, commercial, and parking on the first floor of a building; commercial and parking on

the next 2 to 4 floors; and residential and office commercial on the upper floors. The industrial uses would have the ground floor location they need and several floors of parking and commercial uses would separate them from residential uses. This vertical separation shields residents from any potential adverse effects of the industrial uses and has the advantage of allowing residents to live, work, and shop within the same building complex. All of the necessary support facilities, whether they be parking space or parks, would be considered within the site or nearby. Thus, a complete community would be created.

Commercial uses requiring easy access to automotive traffic could also locate at grade. However, the majority of the commercial uses would occur above grade as is the case with most office developments today. Residential uses would be located above these developments.

The actual mix of land uses within any development will vary throughout the Mauka Area. The Land Use Plan indicates how the emphasis of different mixed uses are to be distributed. Developments in some areas would contain more residential uses, others more commercial or industrial. However, industrial use at the ground level would be commonplace throughout the Mauka Area, except most of the area bounded by King, Piikoi, Kamaile, and Pensacola Streets where industrial uses will not be allowed. The land use mixture for that area is prescribed to retain the existing pattern of multi-family residential uses without creating problems of having to separate industrial uses from existing residences. This residential area is similar to the residential areas immediately across Piikoi Street and was an added reason for excluding industrial uses.

Large-scale developments or superblocks are proposed to make the mixed-use concept work most efficiently. Presently, in some areas, the Mauka Area has an excessive amount of land allocated to streets in relation to developable land area as a result of a proliferation of small lots and blocks. Street closures and land consolidations are practical solutions in many such areas, though not immediately possible in all of them. Where possible, street closures are proposed to facilitate land consolidation and thus make available more land of a size capable to support larger and more cost-efficient developments.

Where streets are closed, superblocks can be created. A superblock is larger than the typical block in the area, is easier to develop, and lends itself to mixed-use development. Superblocks are more efficient to

develop since utility and other development costs are reduced through economies of scale. The development of superblocks allows public infrastructure services to be located in one or a few locations on the site rather than the many locations necessitated by contiguous small lot developments. The large size of the superblocks makes it easier to mix uses and provide the amenities necessary to create an attractive environment.

Most developments in the Mauka Area will be encouraged to have common urban design features for the purpose of creating a desirable and functional community. These features are tastefully designed platforms, decks, and towers (Figure 2). Platforms are those parts of mixed-use developments limited to 45 feet in height. The platforms contain extensive parking areas as well as commercial and industrial uses. Decks are the roofs of platforms. Towers are tall building forms which are situated abutting or above the platforms and seem to rise from the decks. Large developments on lots of one-half acre to the scale of a superblock of several acres shall incorporate these elements. The platform will be a natural result of locating the required parking and loading space for any large-scale development. While not required, these platforms provide for the most efficient use of developable land.

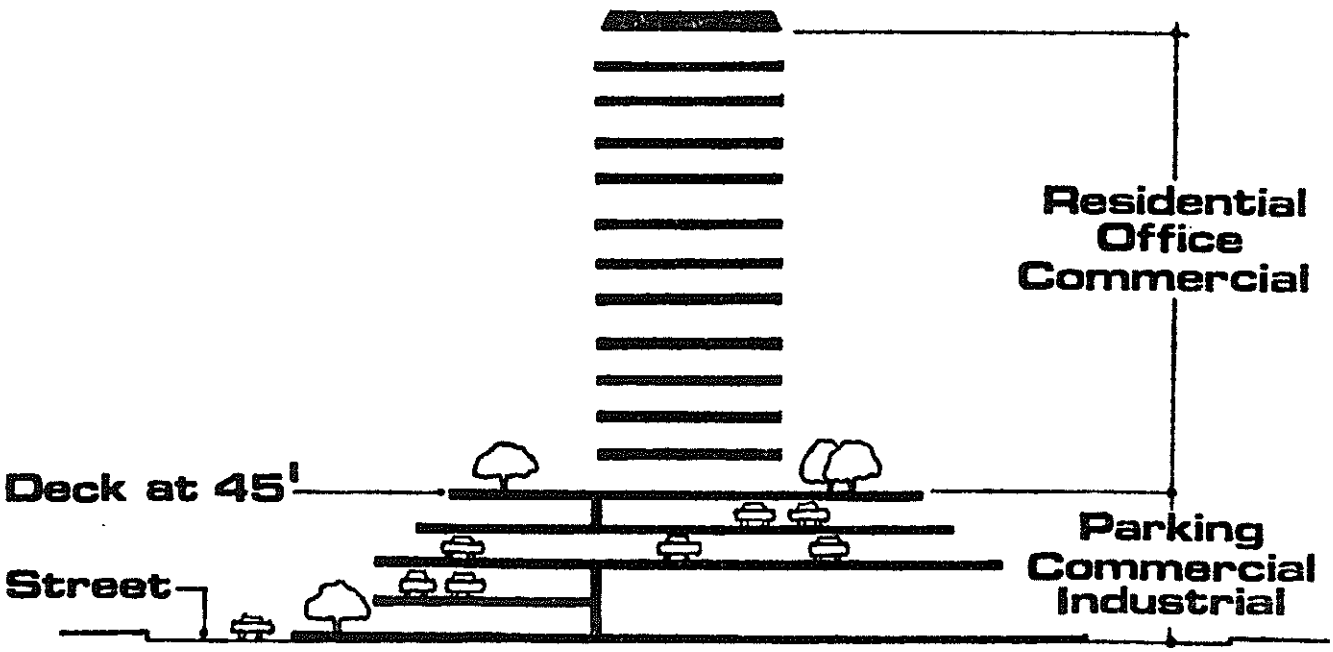

Figure 2: Typical Mixed-Use Project

Residential uses, industrial uses, commercial uses, and parking and loading space may be located within the respective floors that comprise the platforms. The platforms must conform to building setback, open space, landscaping, and other design requirements to ensure that the developments are compatible with uses within adjacent areas. The decks would function as community activity areas with open spaces and recreation spaces linked by a grade-separated system of pedestrianways. In effect, the decks will add considerable new "land surface" to the Mauka Area. The upper-level pedestrianways will join neighborhoods, link residential areas with off-site employment areas, and provide access to public facilities throughout the community. This upper-level system will allow people to move throughout the Mauka Area without going to the street level with its accompanying automobiles.

Access to the decks and uses below and above will be easy with elevators located in all parking structures (public or private) and within the building towers. Connections between grade-level and the upper-level pedestrianways will also be provided in every block. Ramps, escalators, and stairway connections will make all levels within a platform fully accessible. A series of bridges or skyways will be built across the public streets to create a system of continuous pedestrianways.

The most exciting aspect of the decks, however, is the activities that can occur on them. This new grade level will contain appropriate retail shops, restaurants and public facilities properly sited and integrated with the surrounding open spaces. Deck-level activities coupled with the mixing of residential and commercial uses below and above will combine to create an atmosphere of activity and vitality. It is this atmosphere that will attract people to reside in the Mauka Area and to participate in its activities.

Tower structures will be permitted for planned developments and may be located on or abutting decks and would contain office and residential uses. A single structure up to 100 feet in height will be allowed on a development lot of 20,000 square feet but less than 40,000 square feet. Only one structure up to 200 feet in height will be allowed on a development lot of 40,000 square feet but less than 80,000 square feet.

For a development lot of 80,000 square feet, one structure not to exceed 400 feet in height, will be allowed. No structures shall be allowed above the 45-foot level on parcels which are less than 20,000 square feet. The height, bulk, and siting of the structures on decks

shall be regulated to create ample open space on the decks and between structures.

The development of public parks at the 45-foot level on the roofs of public parking garages will also contribute to this atmosphere and maximize the use of already limited land resources. The vertical stacking of public uses reduces the amount of land removed from the tax rolls while still providing all of the necessary amenities and services needed to create the desired neighborhood atmosphere. These elevated park areas are also prime locations for community and day care centers and those other public services which will make the Mauka Area attractive and desirable. Such efficient use of space for public facilities is designed to further promote surrounding development, thereby maximizing lands available for economic use while enabling parks, public parking, and other necessary supporting facilities to be close by.

The mixing of land uses was not only looked at as it pertains to allowing a variety of uses in the area but also as a way of providing a community-oriented living and working experience. Creating an area in which the same people will live and work should also minimize the amount of traffic entering and leaving the area. This should help control the increase in traffic along major access streets at the edges of the Mauka Area.

The subsequent sections of the plan will provide more detail on the various systems and facilities that will make the Mauka Area an attractive and desirable community. Complementary adjacent uses such as the proposed Waterfront Park will also be examined in more detail.

Land Use Plan Provisions

In order to achieve the objectives of the Land Use Plan, the Authority's rules will control the development and use of land in the Mauka Area, and will be augmented by Authority review and approval of all proposed developments, public and private.

In order to encourage mixed-use development yet retain the individual character of different types of neighborhoods, the Authority has designated mixed-use zones. These mixed-use zones provide for a dominance or emphasis of residential or commercial activities in different parts of the Mauka Area. Further, to ensure that light and service industrial activities will occur

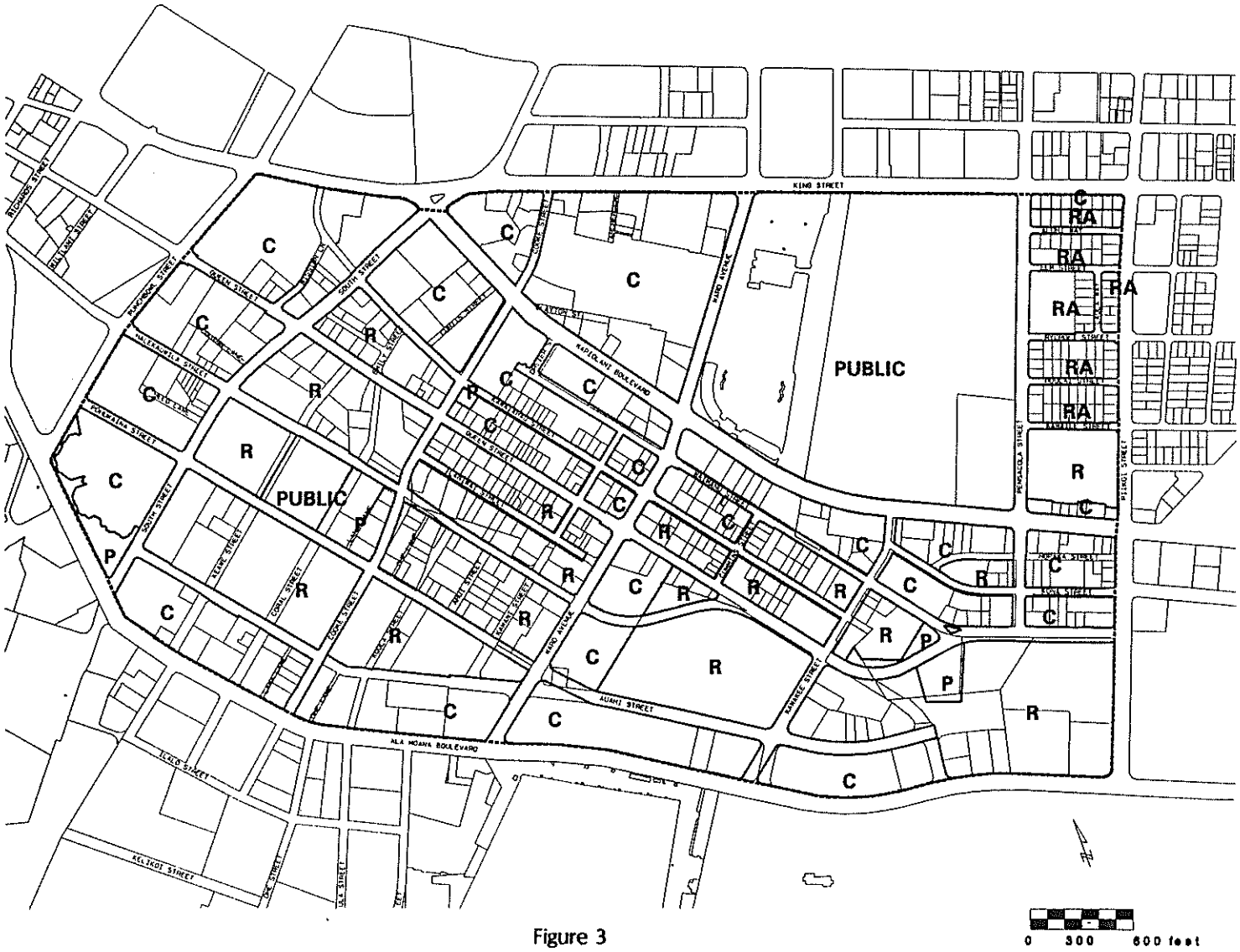

Figure 3

MAUKA AREA PLAN

Land Use Plan

Mauka Area Boundary

C — Mixed Use Zone Commercial

R — Mixed Use Zone Residential

RA — Mixed Use Zone Residential A

P — Park at Grade

PUBLIC — Public Use Areas

April 1999

within the Mauka Area pursuant to Chapter 206E, HRS, most of the mixed-use zones require the development of some industrial space in order for a mixed-use development to take place.

Three land use zones are created: two emphasizing residential, and one emphasizing commercial activities. Conformance to performance standards will be required to ensure compatibility among the different uses.

The three mixed-use zones are described as follows:

MIXED-USE ZONE - COMMERCIAL (MUZ-C) permits residential, commercial, light industrial, and service industrial land uses, but emphasizes commercial. The permitted uses in MUZ-C shall be listed in the rules.

The purpose of the MUZ-C is to provide for (a) community-wide retail services and office commercial activities in easily accessible and highly visible areas along major and secondary streets; (b) compatible mixing, at grade, of light and service industrial activities with commercial activities; and (c) residential activities close yet separated from commercial and industrial activities. The designated MUZ-C areas are located in the Hawaii Capital District area, along Kapiolani Boulevard, mauka of Queen Street, and along portions of Ala Moana Boulevard.

To ensure that space will be provided for light and service industrial activities in this zone, each development shall include light and service industrial floor space at no less than 0.3 floor area ratio. "Floor area ratio: (FAR) is a number which reflects the relationship of the total floor area of a building to the size of the property on which the building is situated.

In the Capital District, industrial space and housing units shall not be required. The requirements of the Capital District Ordinance shall apply in relation to open space and urban design except that only 25 percent of the lot area needs to be in open space, all of which must be at grade. On-site parking will not be permitted in the required open space area. The required yard setback area shall be included in calculating the open space. Other requirements of the mixed-use zone shall apply in addition to those of the Capital District Ordinance. The uses permitted in the MUZ-C zone shall, however,

apply as well as any dedication and assessment requirements.

MIXED-USE ZONE - RESIDENTIAL (MUZ-R) permits residential, commercial, light industrial, and service industrial uses, but emphasizes residential. The permitted uses in the MUZ-R shall be listed in the rules.

The purpose of the MUZ-R is to provide a mixture of light industrial, service industrial, and neighborhood type commercial, activities in areas which are primarily allocated to residential activities. The designated MUZ-R areas are located in the interior of the Mauka Area away from most of the major streets which run through the Mauka Area.

To ensure that space will be provided for light and service industrial activities in this zone, each development must include light and service industrial floor space at no less than 0.3 floor area ratio.

MIXED-USE ZONE - RESIDENTIAL-A (MUZ-RA) permits residential and commercial uses. Industrial uses are prohibited. The permitted uses in MUZ-RA shall be listed in the rules.

The purpose of MUZ-RA is to allow a limited mixture of neighborhood commercial activities in areas primarily designated for residential activities. The MUZ-RA areas are located in the area bounded by King, Piikoi, Kamaile, and Pensacola Streets.

To ensure that the residential emphasis of this zone is maintained, commercial activities are limited to a maximum 0.3 floor area ratio.

The Land Use Plan map (Figure 3) shows the mixed-use zone designations in the Mauka Area, and also areas designated as PUBLIC or PARK areas. Areas designated "PUBLIC" are lands which are currently publicly owned. Areas designated "PARK" are intended for use as public parks, parking garages, and/or educational facilities. Most are intended for future public sector acquisition. Those areas used for neighborhood public parks will have parks at the 45-foot level. The lower floors will be utilized for public parking space, recreational facilities, or other uses compatible with the immediate neighborhood, particularly with respect to ground level activities.

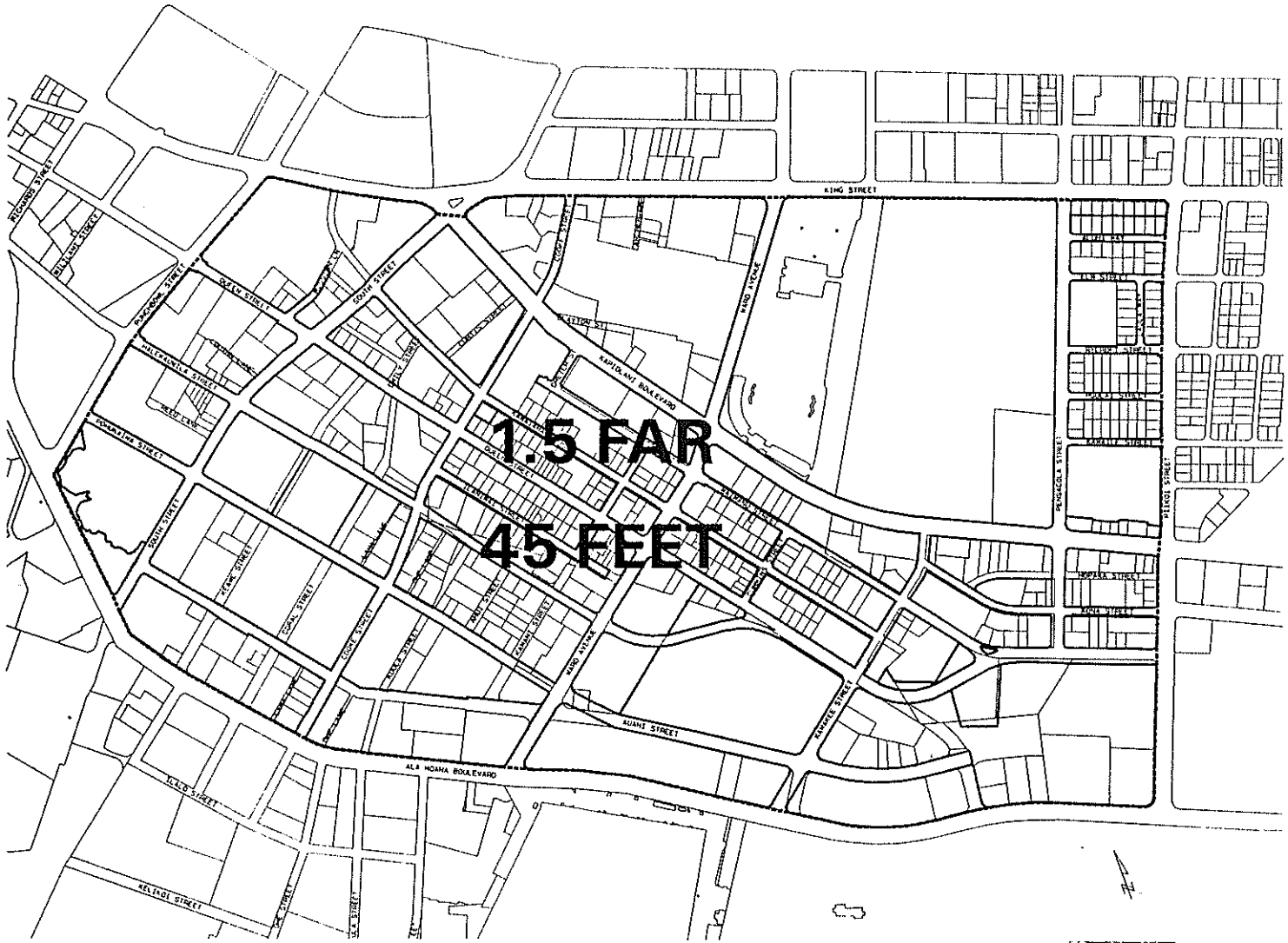

Figure 4

MAUKA AREA PLAN

FAR & Building Height

Mauka Area Boundary

NOTE:
FAR and building heights noted on the map are for development without Planned Development Permits

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Within the mixed-use zones, certain other specific uses such as utility substations, schools, recreation, and other public facilities are permitted. The permitted uses are listed in the rules.

Property within the Mauka Area in any mixed-use zone may be developed to a maximum height of 45 feet and a maximum floor area ratio of 1.5 (Figure 4).

Developments beyond these maximums may be permitted under the planned development provisions described later in this chapter.

Building heights up to 65 feet will be allowed in the area bounded by Punchbowl Street, King Street, South Street, and Ala Moana Boulevard, provided planned development requirements are met. This exception is made to conform to the Hawaii Capital District Ordinance height limits.

Buildings shall be set back fifteen (15) feet from the property line along all public roadways, or from the proposed roadway setback line. Side and rear yards are not required except for structures containing windows or openings adjoining side or rear property lines in which case the minimum side and rear yards shall be ten (10) feet.

Buildings along streets designated as "View Corridor" streets in this plan shall be set back at a 1:1 slope from the 20-foot level at the building setback line up to the 45-foot level.

It is recognized that developments constructed or completed prior to the adoption of this plan and the rules may not conform thereto. Therefore, provisions shall be made in the rules for nonconforming uses of land, and nonconforming structures.

As previously stated, in keeping with the mandate of the Hawaii State Legislature, two major objectives of this plan are (a) to increase the amount of building floor space to realize increased utility of the land, and (b) to mix residential, commercial, and light and service industrial uses within the total floor space. The target or proposed amount of total building floor space has been identified as being 36.1 million square feet. The appropriate mixtures of residential, commercial, and light and service industrial uses are provided for in the mixed-use zones and the Land Use Plan.

Given the 36.1 million square feet of building floor space and the vertical and horizontal mixture of uses, the

urban forms of buildings were studied in detail. The Phase III activities found that several different urban forms were possible which would accommodate the total building floor space.

One urban form would preserve the panoramic view from Punchbowl lookout to the ocean by having a maximum building height of 200 feet in the Mauka Area with the maximum height reduced in increments down to 50 feet at the makai side of the Kakaako District. Another is to maintain the same graduated building heights, but allow 200-foot buildings in two or three locations at the makai side of the District, thereby penetrating the view plane in specific locations. Other urban forms would incorporate buildings up to 350 feet in height in certain locations or establish uniform district-wide maximum building heights of 150 feet.

Although these various urban forms increased total building floor space in the Mauka Area thereby achieving more economic utility of the land, they had other impacts which were not environmentally or socially desirable. These urban forms resulted in more building mass which in turn resulted in less open space, restriction of views from within the Mauka Area or potential development of "walls" of buildings up to 350-foot heights. Also many of the urban forms would result in the inequitable distribution of building height or floor space among the properties in the Mauka Area.

Further study and refinement of urban form alternatives resulted in the formulation of an urban form for the Mauka Area which meets the major plan objectives and minimizes the undesirable impacts mentioned above.

The impact of building height and bulk in the Mauka Area is mitigated by allowing buildings to exceed a 45-foot height only when land has been assembled into development units or lots of 20,000 square feet or more, by limiting the number of building structures and their heights, and by limiting the bulk of these structures. With the exception of the narrow building towers, decks at the 45-foot level will appear as landscaped open space with some low-rise structures. These open space areas will be linked to adjacent open space areas across streets by means of pedestrianways. Thus, a new level of open space is created on a deck, with wide vistas interrupted only by the narrow building towers. The views at this level will be far superior to the limited views normally occurring at the street level of most urban communities.

In effect, two separate levels of activities are created within the Mauka Area with pedestrian-oriented

residential, commercial, social, and recreational activities at the 45-foot level and vehicular oriented, industrial and commercial business traffic at the ground level.

The ground level appearance will be more pleasing than it is today. Streets will be improved and buildings will be set back from the sidewalks. Along view corridor streets above the 20-foot level, each floor would be set back farther than the floor below it, thereby providing more open area and allowing wider views along the streets. The sides of the streets will be extensively landscaped and have appropriate street furniture, as described in the Urban Design section. Commercial activities will occur along well-traveled streets, and light and service industrial activities will be situated so that they have street access but do not conflict with the commercial activities.

An artist's conception of the urban form envisioned for the Mauka Area is illustrated in Figure 5.

Planned Development Permits

The Authority shall use the method of design review and granting of Planned Development permits to achieve the objectives of this plan and the urban form previously described. Accordingly, any proposed development above 45 feet in building height or having a floor area ratio greater than 1.5 shall have a minimum development lot size of 10,000 square feet and will require a Planned Development permit.

In order to obtain a Planned Development permit, a proposed development project must meet certain conditions of development which the Authority may impose. Such conditions will be established by the Authority according to guidelines in the rules. Such guidelines and the conditions imposed by the Authority must be in conformance with meeting the objectives of this plan for such public needs as housing, recreation, open space, and other community facilities.

For a development lot of 20,000 square feet, the maximum building height shall not exceed 100 feet from grade and the floor area ratio shall not exceed 2.0. The footprint of the tower shall not exceed 8,000 square feet. For a development lot of 40,000 square feet, the maximum building height shall not exceed 200 feet from grade and the floor area ratio shall not exceed 2.5. The footprint of the tower shall not exceed 14,000 square

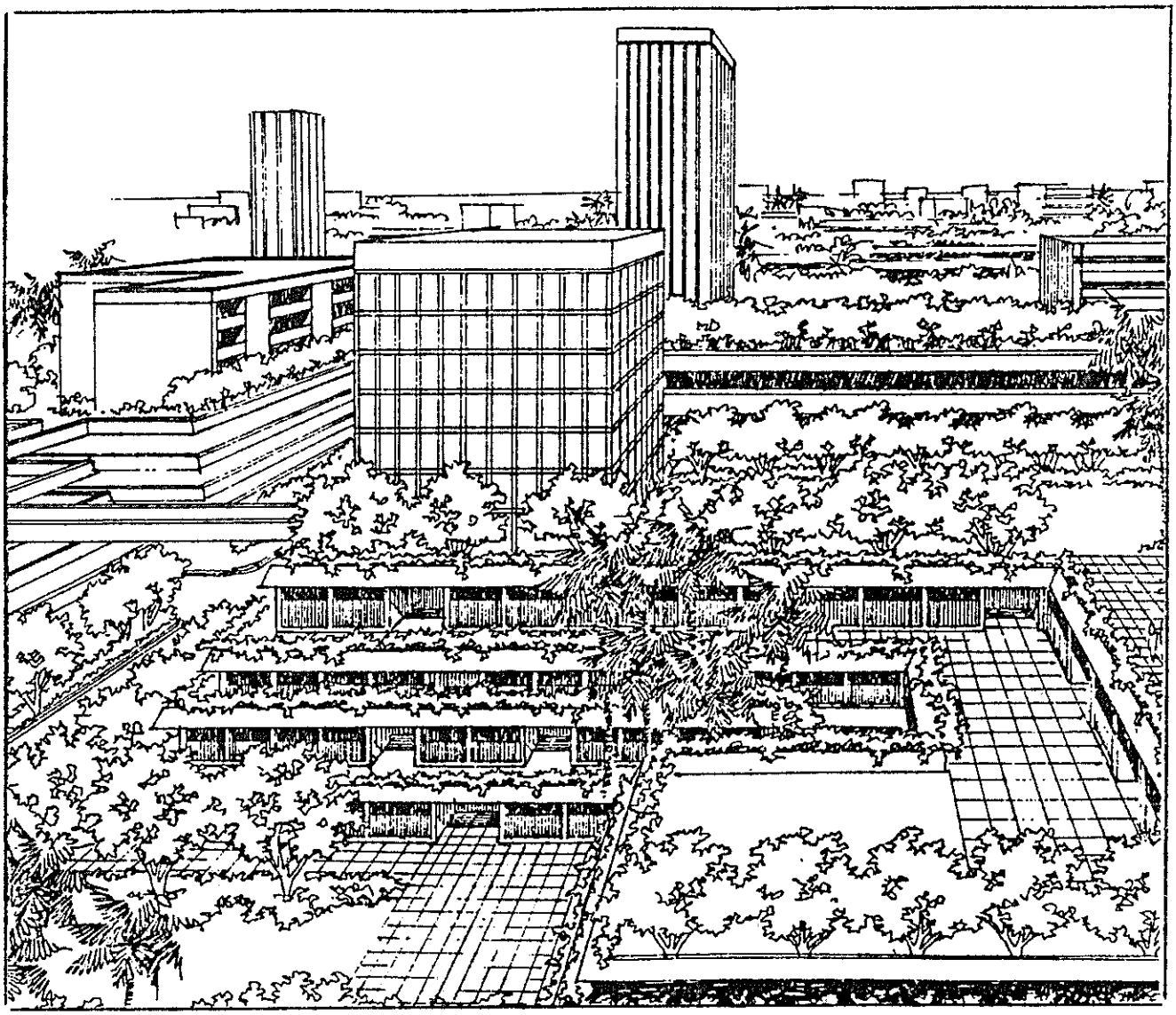


Figure 5: Mauka Area's Future Urban Form

feet. For a development lot of 60,000 square feet, the maximum building height shall not exceed 300 feet from grade and the floor area ratio shall not exceed 3.0. The footprint of the tower shall not exceed 15,000 square feet. For a development lot of at least 80,000 square feet, the maximum structure height shall not exceed 400 feet from grade and the floor area ratio shall not exceed 3.5. The footprint of the tower shall not exceed 16,000 square feet.

For development lots of 10,000 to 19,999 square feet, the maximum structure height shall not exceed 65 feet. The floor area ratio may be increased proportionately from 1.8 to 1.99 while the maximum tower footprint may also be increased proportionately from 5,000 to 7,999 square feet.

For a development lot between 20,000, 40,000, 60,000 and 80,000 square feet, the maximum building height, floor area ratio and tower footprint are proportional to the parameters of the lots enumerated above.

In Planned Developments of lots 20,000 square feet or more in size within MUZ-C, no more than sixty percent of the total floor area will be allowed for commercial use. For lots less than 20,000 square feet in size, no more than 1.2 FAR will be allowed for commercial use.

Furthermore, to ensure that the residential emphasis is maintained in all Planned Developments within MUZ-R, up to 1.2 FAR will be allowed for commercial use.

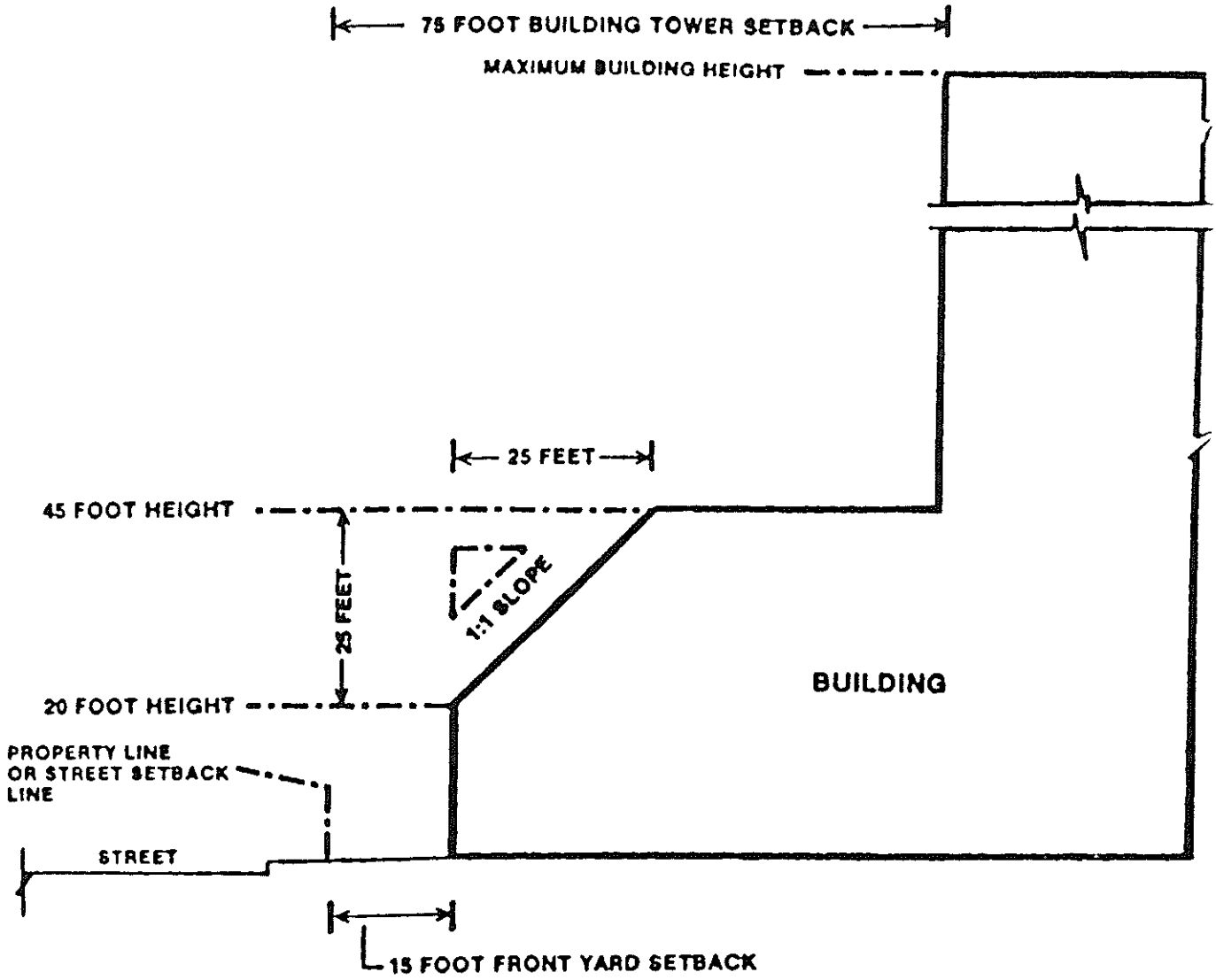
As far as any Planned Development projects in MUZ-RA are concerned, no more than .3 FAR of commercial use is allowed with the remaining floor area in residential use."

Within the above-stated maximums, the Authority shall, during the design review process and according to guidelines in the rules, set building heights and floor area ratios for Planned Developments based on the size of the development lot, and the inclusion of housing, community facilities, and other improvements which meet the objectives of this plan.

The deck of the platform should be developed and landscaped as open space, except in those areas which are approved for other uses.

For Planned Development projects, buildings shall be set back, along any property line which fronts on view corridor streets, at a 1:1 slope from the 20-foot level at the 15' building setback line up to the 45-foot height level (Figures 6 and 7). Above the 45-foot height level, building setback from the property lines which fronts non-view corridor streets will be subject to the Authority's design review process, and will be based upon the urban design and open space objectives of this plan.

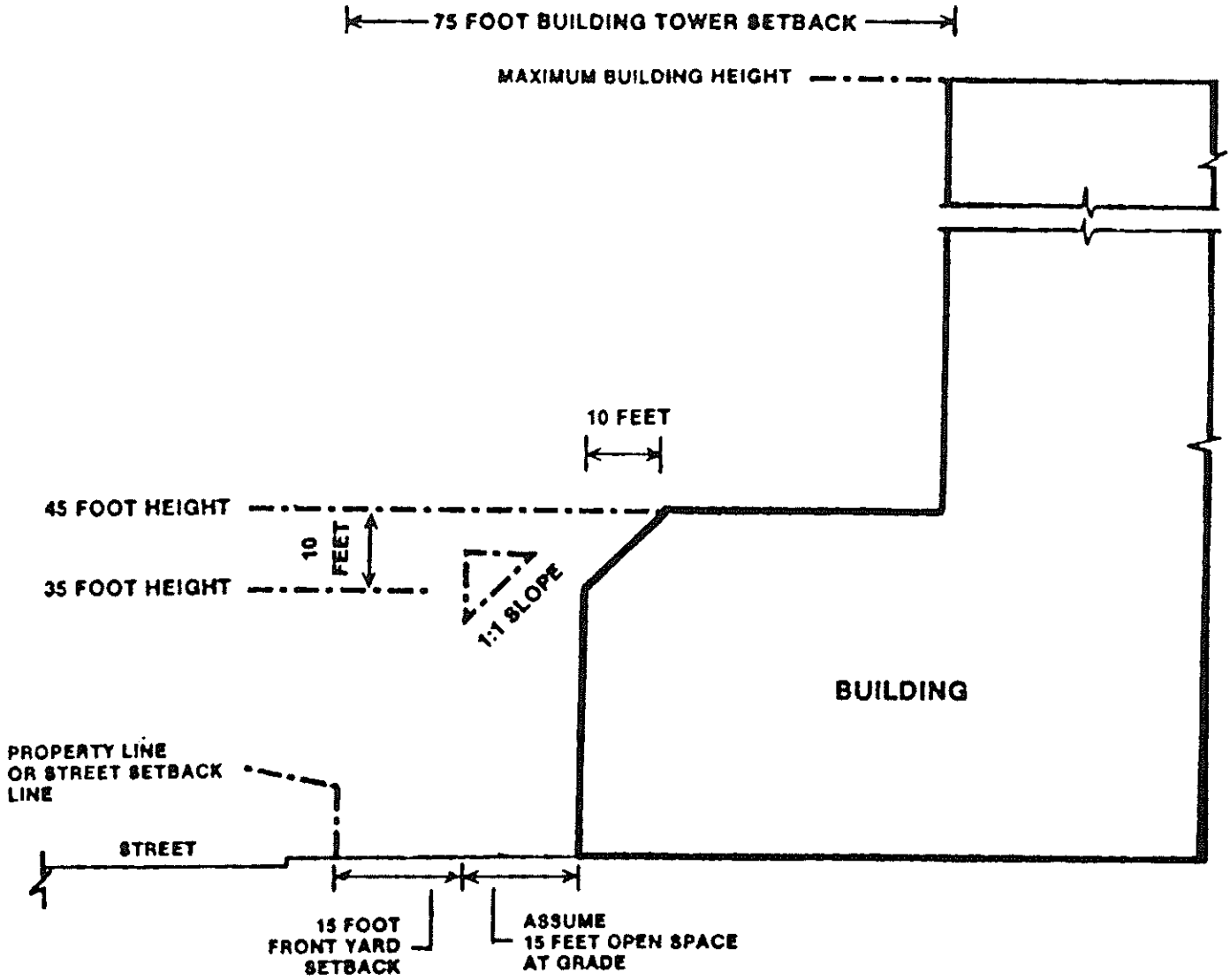
To provide an incentive for the formation of superblocks, certain existing streets may be closed and others will not be included as part of the Mauka Area's roadway network. The closure of such streets is intended to allow such streets to be used as private streets or pedestrianways within the superblock and over which development may take place. Another alternative is to convert such streets into developable land. In any of these alternative uses, the economic utility of the land within the superblock will be greatly enhanced. Other information on areas which are intended for the formation of superblocks may be found in the transportation section and the Land Use Plan Map (Figure 3).



BUILDING SETBACK FOR PLANNED DEVELOPMENTS

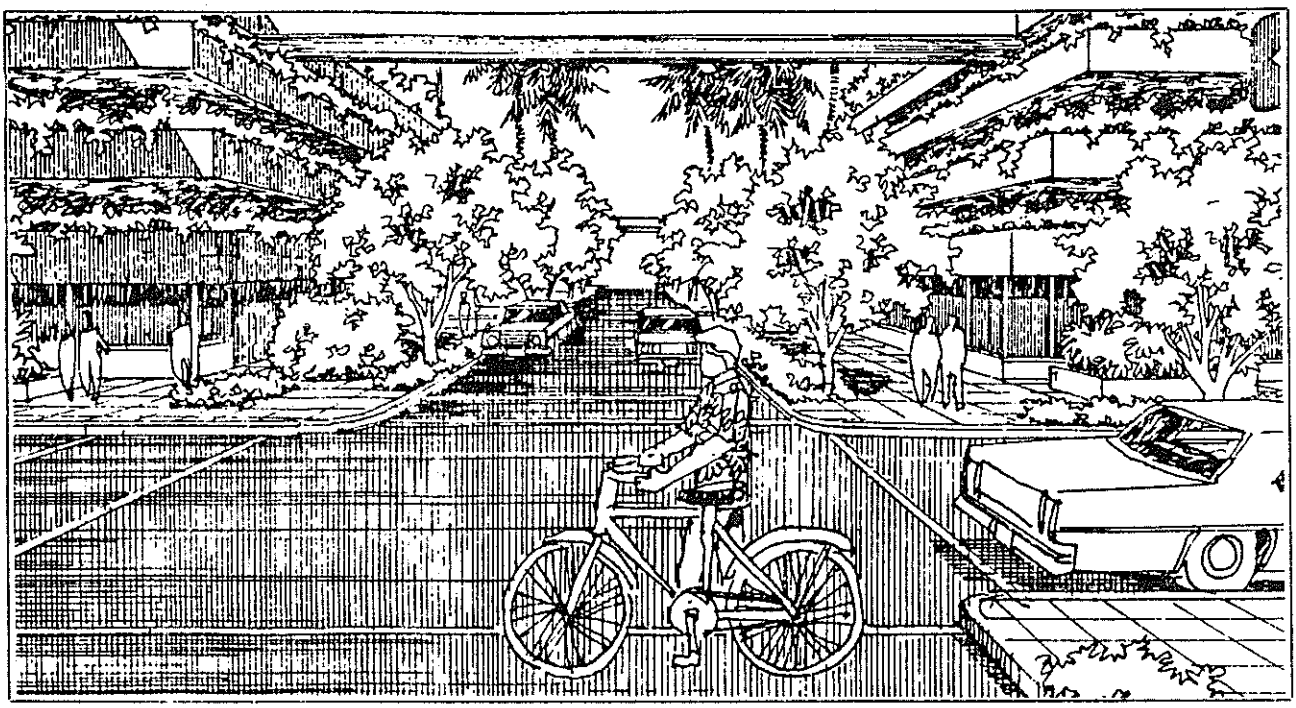
(ALONG VIEW CORRIDOR STREETS)

Figure 6



BUILDING SETBACK FOR PLANNED DEVELOPMENTS WITH AT-GRADE OPEN SPACE ALONG BUILDING LINE
(ALONG VIEW CORRIDOR STREETS)

Figure 7



TRANSPORTATION PLAN

Transportation systems involve the physical systems and modes by which people and goods move. Transportation systems include streets and roadways, pedestrian routes, bikeways, and surface and guideway facilities for mass transit and people movers. Transportation modes include automobiles, trucks, buses, bikes, mass transit vehicles and people movers.

The Mauka Area's transportation systems and modes serve various economic, social and physical activities within the Mauka Area. The Mauka Area's systems are linked with regional systems outside the Mauka Area. The location and effectiveness of the transportation systems and modes significantly influence redevelopment and enhance the Mauka Area's economic viability.

Chapter 206E, HRS, sets forth the Legislature's concern for a safe and efficient movement of people and goods, and for locating activities so as to facilitate primary reliance on public transportation and pedestrian facilities within the Mauka Area and its subareas. With improvements to the Mauka Area's transportation system, traffic safety and efficiency concerns would be met by a lessening of the dependency on the automobile and greater encouragement of the use of public transportation and pedestrian facilities for internal circulation.

To address these concerns the Authority studied in detail the existing transportation network and modes and analyzed their present problems, capacities and constraints with respect to the land development potential of the Mauka Area. Alternative transportation solutions to identified problems were developed and evaluated. Solutions were developed, tested and evaluated keeping in mind such planning considerations as the arrangement and mix of land use activities, the location of public facilities, and open space and urban design requirements. Workable combinations of solutions were assembled into twelve plan variations for further analysis and refinement. From this analysis evolved the Transportation Plan.

Transportation Proposals

The Transportation Plan (Figure 8) for the Mauka Area was prepared in concert with the land use plan, urban design considerations, and the network of public facilities, utilities and open space and recreation areas. Attention to the interrelationship among these areas was essential to the development of a transportation system that meets community needs.

The Transportation Plan includes improvements to streets and roadways, parking facilities, pedestrianways, bikeways, and public transportation. Such improvements are designed to support the proposed land uses.

The Transportation Plan (Figure 8) is subject to modification and refinement inasmuch as the routes shown are based on preliminary studies and proposals. As detailed engineering analyses and designs are performed and reviews and consultations are carried out with the appropriate parties, changes to the alignments shown may be required.

Streets and Roadways

The Authority's Phases I and II Studies identified needed street and roadway improvements in the Mauka Area. The findings revealed that the Mauka Area's street and roadway network is substantially deficient. Except for the major roadways of Kapiolani and Ala Moana Boulevards and the main intersecting streets of Ward Avenue, Pensacola, Piikoi and Punchbowl Streets, most interior roads were built fifty or more years ago and have not been brought up to current street standards of the City and

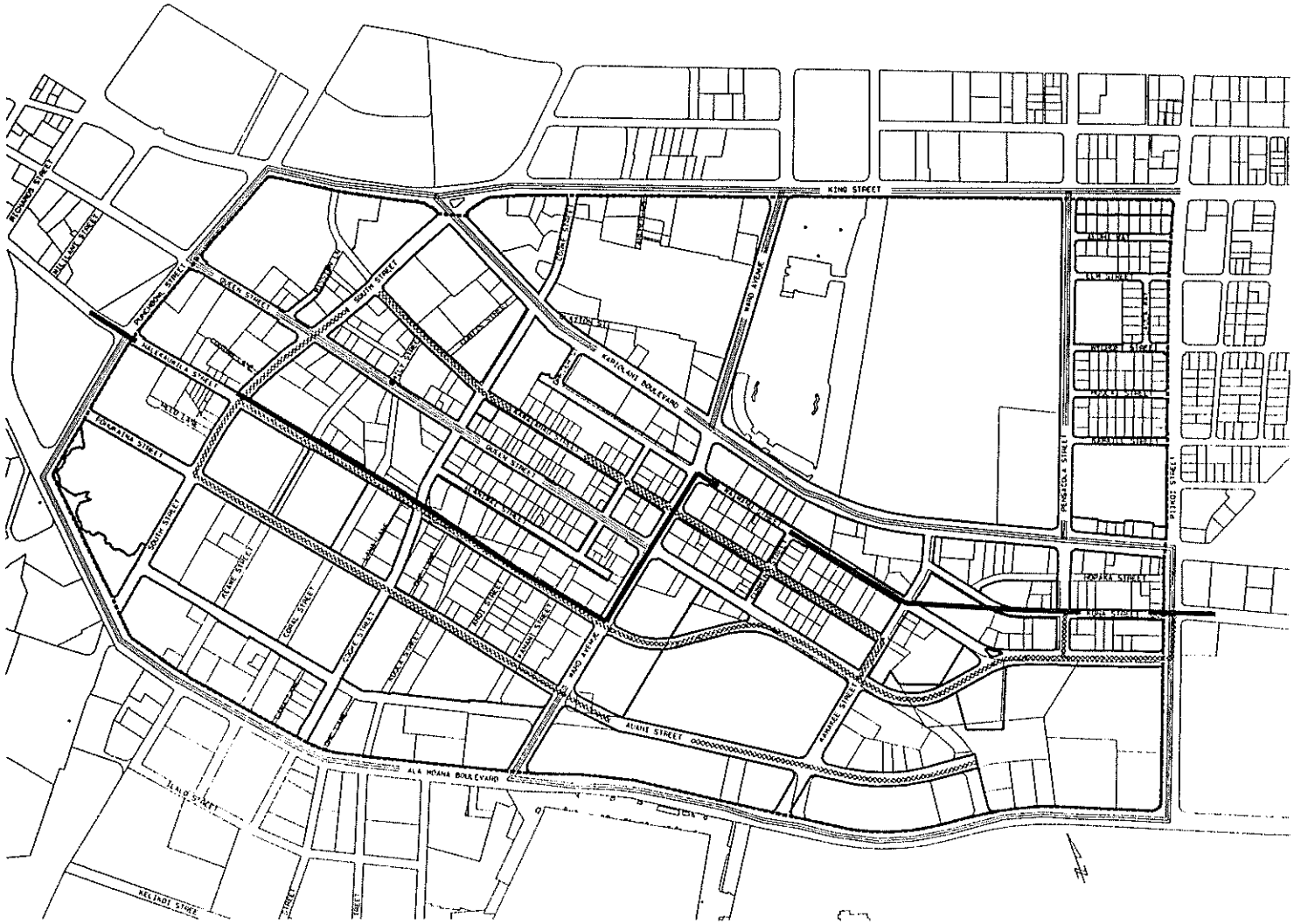


Figure 8

MAUKA AREA PLAN

Transportation Plan

- Mauka Area Boundary
- The Bus
- HRTP Halekauwila Alignment
- People Mover

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County of Honolulu. Many of the streets have nonconforming rights-of-way and street widths, are in disrepair, and lack proper curbs and sidewalks. Approximately 25 percent of the road system is privately owned. This prevents needed public maintenance, and enactment and enforcement of parking controls to ensure safe and efficient traffic movement.

Street improvements in the past twenty-five years have included widening (e.g., Pensacola Street), minor realignment (Ward Avenue), Improvement District projects (Sheridan Tract, mauka of Kapiolani Boulevard and Diamond Head of Pensacola Street), and extension (Pensacola Street makai of Kapiolani Boulevard).

Further improvements found necessary included the upgrading of streets, providing curbs and sidewalks, and other modernizations. Moreover, the poor condition of the street system and the needed improvements have hindered fuller utilization and development of the Mauka Area. Many streets were found to lack the capacity to carry the volume of traffic anticipated from land uses permitted even under current plans and ordinances. Improvements are needed for the proper movement of traffic throughout the Mauka Area, for safe and efficient access to properties, and to support new development.

Toward these ends, all streets and roadway system improvements shall be in accordance with the Roadway Plan as illustrated in Figure 9, the street rights-of-way and cross sections (Figures 10, 11 and 12), and the rules of the Authority. Figure 13 summarizes the dimensions of the existing and proposed roadways for comparative purposes. Figures 10 to 13 relating to street cross sections and dimensions may be modified or refined as detailed engineering analyses and designs are performed.

Two categories of streets are shown on the Roadway Plan: major roads and local roads. The major roads are for movement of traffic within and through the Mauka Area. They carry moderate to high traffic volumes either as collectors which funnel traffic to the regional roadway system, or as arterial streets which serve traffic passing through the Mauka Area. Local roads provide access to abutting properties and are not designed for through traffic; their traffic volumes are low and use is primarily local. It is anticipated that the existing streets not needed for traffic flow or access to properties may be closed. Closure of streets would increase the developable land area of the Mauka Area by enabling the creation of larger scale developments or superblocks. While not immediately possible in all areas with small lots, street closures and resulting land

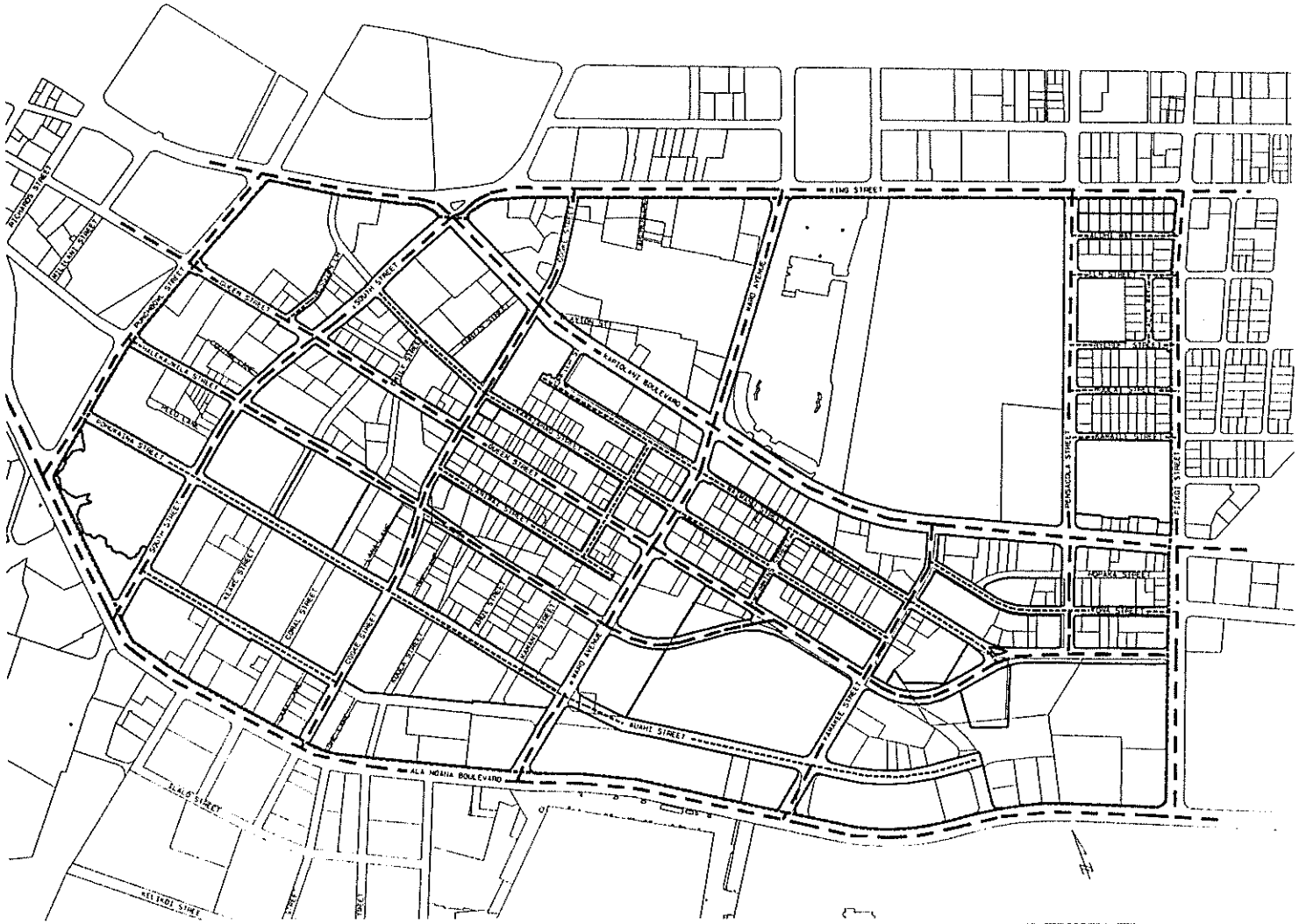

Figure 9

MAUKA AREA PLAN

Roadway Plan

- Mauka Area Boundary
- Major Streets
- Local Streets

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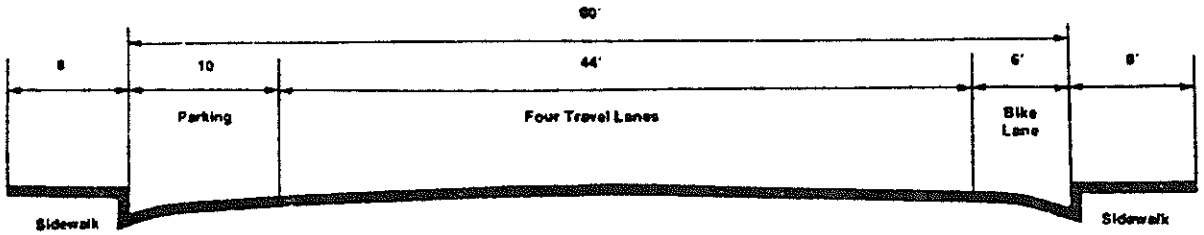
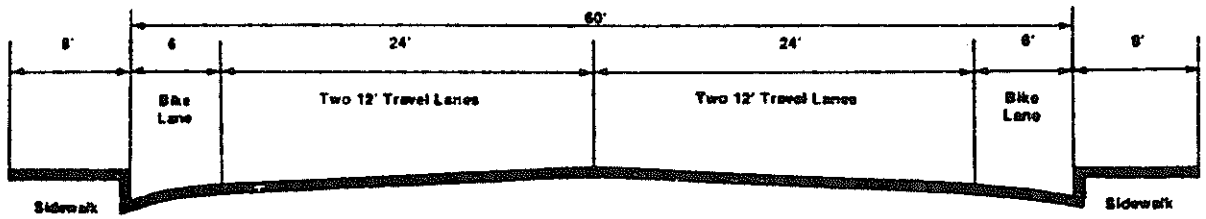


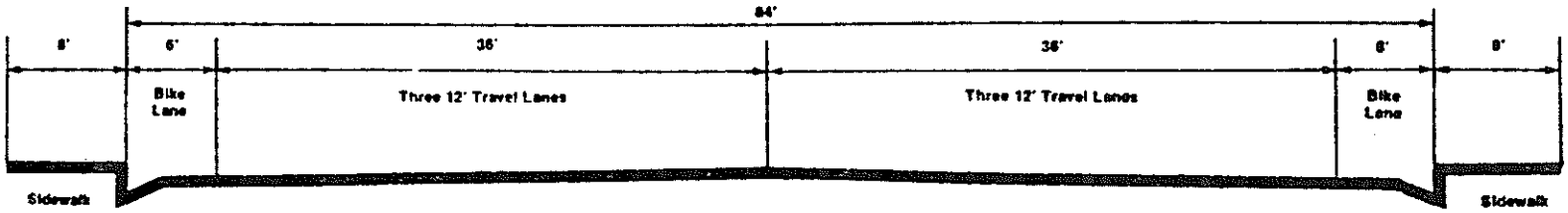
PENSACOLA STREET

(Existing 76' Right of Way)



KAMAKEE STREET

(Existing 76' Right of Way)

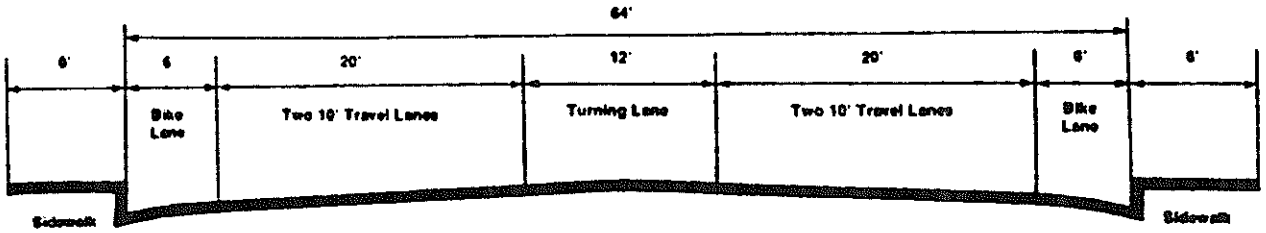


QUEEN STREET EXTENSION

(Right of Way: 100')

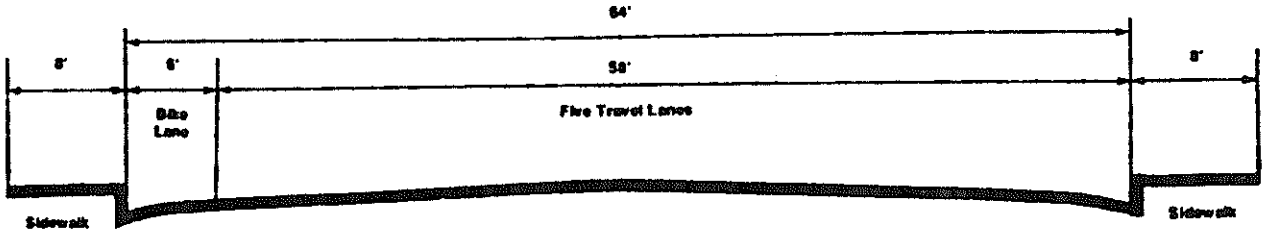
STREET CROSS SECTIONS

Figure 10



WARD AVENUE

(Existing 60' Right of Way)

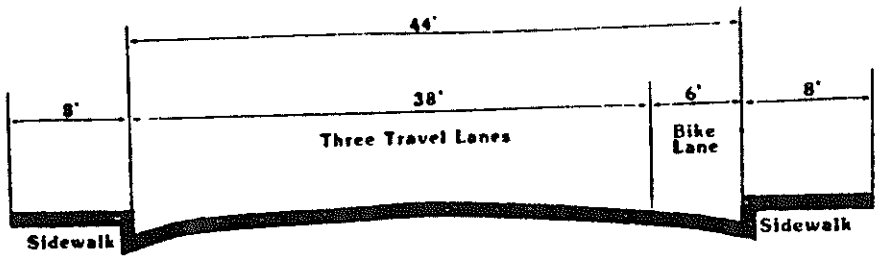


WAIMANU STREET EXTENSION

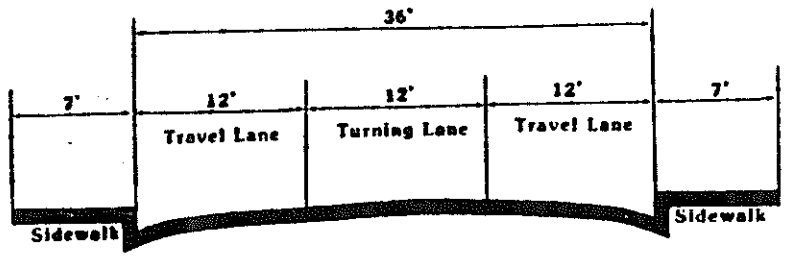
(Right of Way: 80')

STREET CROSS SECTIONS

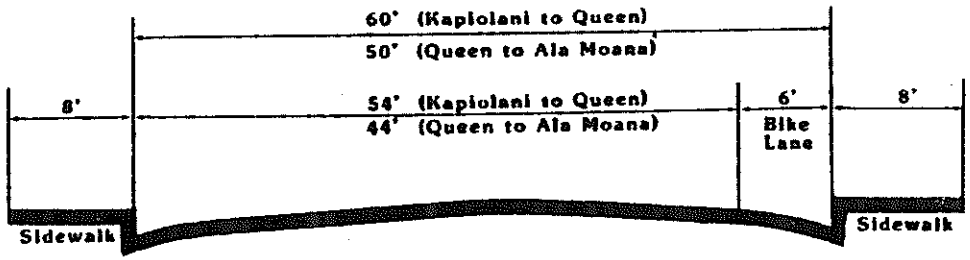
Figure 11



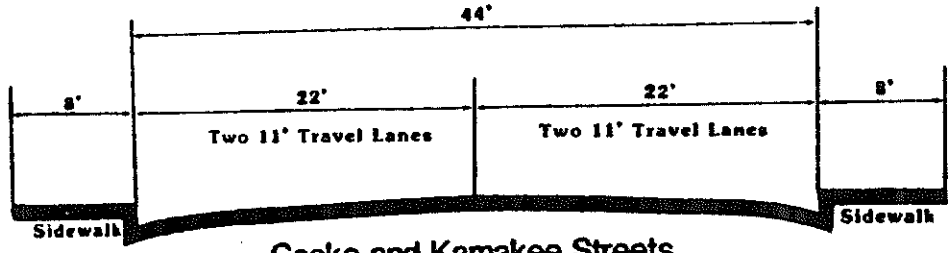
Proposed One Way: Queen- Halekauwila Couplet
(Right of Way: 60')



Local Street
(Minimum Right of Way: 50')



One Way: South Street
(Right of Way: 76', Kapiolani to Queen)
(Right of Way: 66', Queen to Ala Moana)



Cooke and Kamakee Streets
KAMAKEE STREET (Between Kapiolani Blvd. and Queen St.)
COOKE STREET (Between Kapiolani and Ala Moana Blvds.)
(Right of Way: 60')

STREET CROSS SECTIONS

Figure 12

ROADWAY DIMENSIONS

	EXISTING			PROPOSED		
STREET	CLASS	R.O.W.	CURB-TO-CURB	CLASS	R.O.W.	CURB-TO-CURB
Ala Moana	MAJOR	100	72	MAJOR	100	72
Cooke	MAJOR MAJOR	50 50	38 38	MAJOR MAJOR	50 60	38 44
Halekauwila	LOCAL	50		MAJOR	60	44
Kamakee	LOCAL LOCAL	40 76	 60	MAJOR MAJOR	60 76	44 60
Kapiolani	MAJOR	100	64	MAJOR	100	64
King	MAJOR MAJOR	80 90	64 66	MAJOR MAJOR	80 90	64 66
Pensacola	MAJOR	76	60	MAJOR	76	60
Piikoi	MAJOR	80	64	MAJOR	80	64
Punchbowl	MAJOR	70	54	MAJOR	70	54
Queen (Punchbowl to South)	MAJOR	56				
Queen (South to Kamakee)	MAJOR	56		MAJOR	60	44
Queen Extension				MAJOR	100	84
South (Kapiolani to Queen)	MAJOR	60		MAJOR	76	60
South (Queen to Ala Moana)	MAJOR	60	44	MAJOR	66	50
Waimanu	MAJOR LOCAL	56 40	40	MAJOR LOCAL	80 50	64 34
Ward	MAJOR	80	64	MAJOR	80	64
Auahi	LOCAL	60		LOCAL	60	44
Cummins	LOCAL	40		LOCAL	50	36
Dreier	LOCAL	40		LOCAL	50	36
Ilaniwai	LOCAL	40		LOCAL	50	36
Kamaile	LOCAL	40		LOCAL	50	36
Kamani	LOCAL	40	36	LOCAL	50	36
Kawaiahao	LOCAL	40		LOCAL	50	36
Kona	LOCAL	40		LOCAL	50	36
Koula	MAJOR	50	36	LOCAL	50	36
Mission	LOCAL	40		LOCAL	40	
Pohukaina	LOCAL	50		LOCAL	60	44

R.O.W. - Right-of-way width in feet
Curb-to-Curb - Width in feet

Figure 13

consolidations are practicable in many areas. The advantages to superblock development are described in the Land Use Plan.

Most of the existing street circulation patterns shall be maintained to minimize right-of-way acquisitions. A new Queen Street and Halekauwila Street one-way couplet is proposed. Queen Street would be extended to Waimanu Street. Halekauwila Street would be a one-way Diamond Head bound street merging with Queen Street near Cummins Street. Queen Street would be two-ways between this merge point and Waimanu Street, and one-way in the Ewa direction from the merge point to Punchbowl Street. These improvements will enhance the Ewa-Diamond Head traffic flows. The one-way couplet would be implemented when additional capacity is required due to development of the Mauka Area. Kamakee Street shall be improved and extended between Kapiolani and Ala Moana Boulevards to facilitate traffic movement from properties and local roads abutting Kamakee Street onto these regional roadways. The Right-of-Way Acquisition Plan (Figure 14) indicates the general areas where right-of-way acquisitions will be required to implement the proposed street system improvements. The areas shown may be modified or refined as detailed engineering analyses and designs are performed.

Halekauwila between Coral and Cooke Streets shall be realigned to provide a continuous street. The severe curve on Cooke Street between Ilaniwai and Halekauwila Streets shall be reduced for safety and efficiency of traffic movement. Closure of minor or local streets not needed for traffic flow or access shall be considered, consistent with the need to promote the efficient use of land by large-scale projects in superblocks.

All street widening, street closing, regrading, elimination of left turn lanes, installation of curbs, gutters, lighting, traffic signalizations, sidewalks, bikeways, and street plantings shall be in accordance with City standards except as otherwise directed by the Authority. Further, all street and roadway improvements shall be guided by the following principles: Increased use of public transportation shall be encouraged; pedestrian traffic shall be encouraged; excessive automobile traffic throughout the Mauka Area shall be discouraged; and existing and future streets and roadways shall be constructed and maintained to meet appropriate standards.

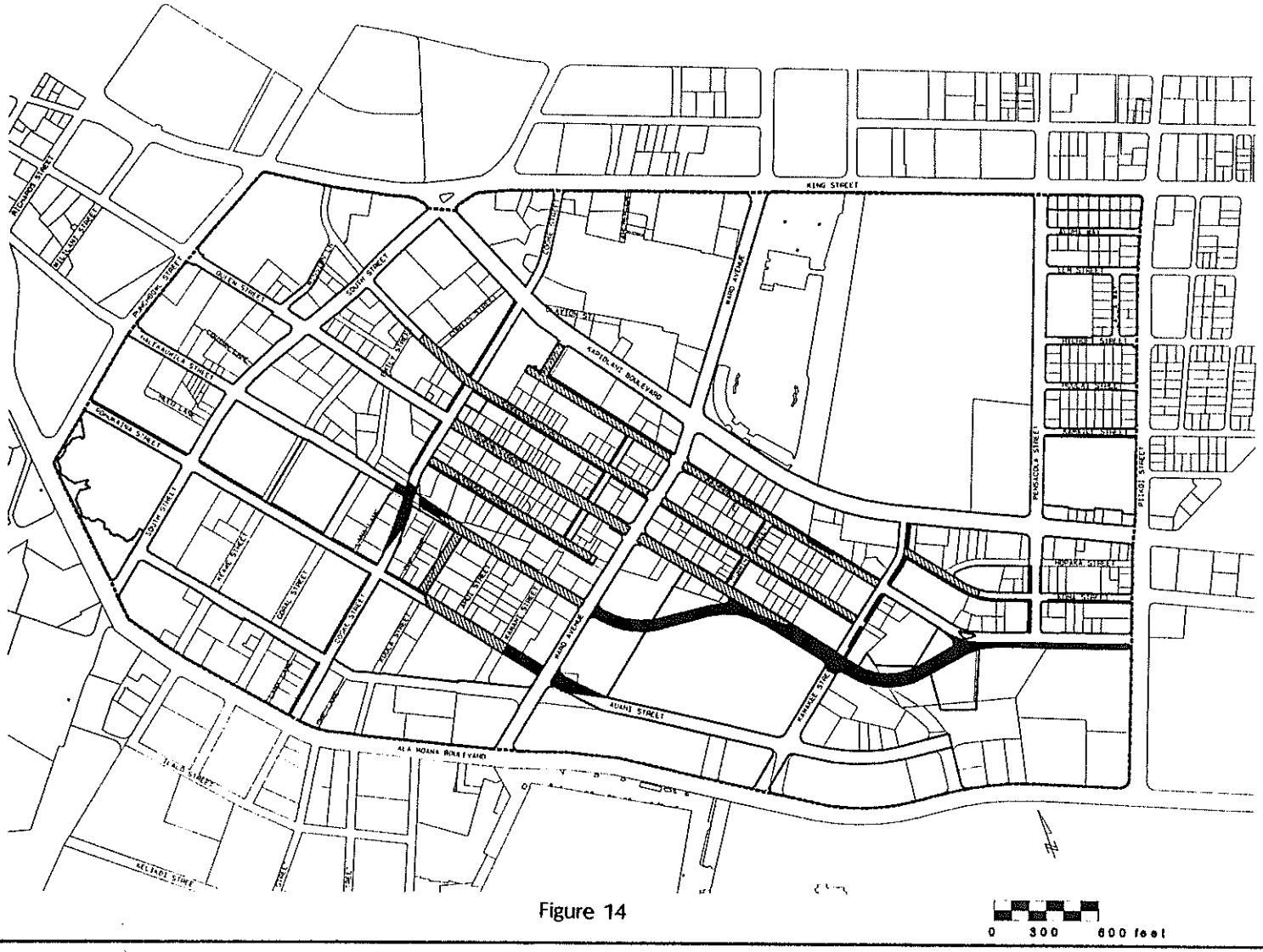


Figure 14

MAUKA AREA PLAN

Right of Way Acquisition Plan

- Mauka Area Boundary
- Privately Owned Street Acquisitions
- Right of Way Acquisitions

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Parking

Parking in the Mauka Area is a major problem. Insufficient parking in many areas create haphazard parking along existing narrow streets, leaving only a single meandering lane to serve two-way traffic. This situation occurs frequently in the area Diamond Head of Cooke Street between Kapiolani Boulevard and Halekauwila Street. Double parking also occurs in the Mauka Area as evidenced by the congestion along portions of Queen Street. These parking problems create hazardous conditions for pedestrians and motorists alike.

Inasmuch as the private automobile will continue to be a major form of transportation within and through the Mauka Area, the Transportation Plan provides for adequate parking opportunities. Parking will be conveniently located throughout the Mauka Area, facilitating traffic movement and eliminating the inconveniences caused by haphazard and illegal parking.

Parking for private vehicles shall be provided along designated streets, on-site in all areas, and within public parking garages.

ON-STREET PARKING - On-street parking shall be discouraged as much as possible. After redevelopment activities are well under way, on-street parking shall be prohibited on all major streets which shall be reserved for vehicle lanes, bus turnout lanes, and bikeways. On-street parking along local streets shall be permitted only on designated streets, and until such time that adequate off-street parking is available. Special parking restrictions may be implemented as a necessary transition to the no on-street parking condition or as the need arises.

ON-SITE PARKING - Appropriate on-site parking spaces shall be provided in all private developments. Parking spaces shall generally provide for a modest reduction of the current parking standards of the City and County, as provided for by the rules. All on-site parking spaces for Planned Developments shall be enclosed to enhance the visual quality of the area. By "enclosed", it is meant that parking shall be located in a structure with a roof and walls. For the purposes of parking located at the top level of a structure, plant material or architectural embellishments which would cover parking spaces may be considered a roof. MUZ developments may provide open parking at grade as long as it is buffered or screened with plant material from adjacent properties and rights-of-way as well as views from above. MUZ

developments which provide multi-level parking shall be subject to enclosed parking requirements. The number, type, and standards, and other requirements for parking shall be established by the rules. The Authority may consider promulgating rules which provide for a waiver or reduction of the on-site parking requirement for private developers who purchase stalls in the proposed parking garages. These waivers or reductions are intended to partially relieve small parcels of one of their major development constraints. On-site parking for short-term customer parking needs and customer convenience would still be required notwithstanding the reduction of on-site parking.

PUBLIC PARKING FACILITIES - A number of public parking facilities shall be provided. Their general locations are shown on the Open Space and Recreation Plan Map. Parking facilities shall be interfaced with the proposed pedestrianway systems to encourage nonautomotive transportation within the Mauka Area. An internal shuttle bus may also be implemented to facilitate better movement within the Mauka Area. These parking facilities shall each cover one acre, shall have three or more levels of parking, and shall have a public park above the top level except as noted below.

Alternative parking facility designs for specific parking projects within development projects may be submitted for approval to the authority. The combination of parking facility and development project shall be practically, aesthetically and economically superior to the alternative of constructing the parking facility and development project separately. The authority must also find that the proposed parking facility and development project will not result in an increase of adverse effects to adjacent developments or uses, and that the result will be consistent with the intent of the Mauka Area Plan.

Pedestrianways, Bikeways and Public Transportation

In the Mauka Area, the pedestrianway, bikeway and public transportation systems are presently inadequate to encourage nonautomobile travel and to serve future transportation needs.

Pedestrian movement in the Mauka Area is hampered by the lack of adequate pedestrianways in most areas. Existing pedestrianways in the Mauka Area consist only of conventional sidewalks with signalized crossings at major intersections. Arcades, malls, grade-separated pathways,

and other pedestrianways are practically nonexistent. Continuous sidewalks exist only along some major and secondary roadways. Sidewalks are also available on a few minor streets which were improved as part of improvement districts such as between Pensacola and Piikoi Streets and between Keawe and Punchbowl Streets. Most minor streets do not have sidewalks, and pedestrians must walk between parked cars and automobile traffic, creating hazardous conditions.

Existing public transportation consists of an island-wide, city-owned and managed bus system. All of the Mauka Area is served by buses within the City's "desirable" service guidelines. Bus use, however, has been found to be at a very low level, which is evidenced by automobile circulation, parking, and traffic problems within the Mauka Area.

In keeping with public policy objectives, the Transportation Plan serves to minimize the use of the automobile for internal circulation within the Mauka Area and its subareas. Instead of driving, residents, workers, and visitors will be encouraged to walk, bike, or use public transportation to go from place to place. The use of such alternative transportation modes would help to conserve energy, improve air quality, promote safety and efficiency in the movement of people and goods, and provide convenience of travel. Accordingly, a multi-modal system of pedestrianways, bikeways, and public transportation is provided as alternatives to the use of the private automobile.

PEDESTRIANWAYS - Improvements to the pedestrian circulation system shall consist of sidewalks along all improved public streets, pedestrian malls, "mid-block" pedestrianways, and elevated pedestrianway facilities with above-grade crossings connecting superblock developments. The pedestrian circulation system shall link residential areas and public transportation facilities, such as bus stops and public parking facilities, with destination areas, such as parks, shopping areas, and work areas in and outside the Mauka Area. Pedestrianways may be constructed by other governmental agencies to provide linkages between major destination areas outside the Mauka Area, such as Downtown Honolulu, the Capital District, Ala Moana Shopping Center, Ala Moana Park, the proposed Waterfront Park, and the Academy of Arts cultural district. Developments adjacent to the pedestrianway route shall be encouraged to connect their internal circulation system to the elevated pedestrianway.

Ground-level sidewalks shall be a minimum of eight feet wide and located between the roadway curb and the

edge of the right-of-way. Narrower sidewalks may be allowed only in conjunction with the provision of street trees, additional landscaping, seating, and other pedestrian amenities. However, in no instance shall sidewalk widths be less than 6 feet. Additional sidewalk width shall be provided within the right-of-way at critical locations, such as bus stops.

Clearly marked 10-feet wide crosswalks and curb ramps for the handicapped shall be provided at all intersections. This would complete the ground-level pedestrianway network.

At approximately the 45-foot elevation, 6- to 8-foot wide corridors shall be provided on the decks of platforms within the upper-level setback area. Six- to eight-foot street over crossings for pedestrians and wheelchairs shall be provided to link blocks or superblocks, or to link complementary facilities, such as a parking garage to employment centers.

The basic upper level pedestrianway system shall follow the routes shown on the Open Space and Recreation Plan. This system provides for an upper-level pedestrian corridor within one block of most parcels in the Mauka Area. Developments located near the system or in adjacent superblocks should be encouraged to connect their internal circulation system to the larger Mauka Area system.

The Authority shall develop these pedestrianway over crossings which span public rights-of-way. The developer of property adjacent to the pedestrianway route shall dedicate and improve an easement for the pedestrianway in the required upper-level setback. The area set aside for the pedestrianways may be counted as part of the required open space of any development.

At the ends of overpass structures, open stairwells and/or ramps shall provide the basic transition from ground or street level to the elevated pedestrianways. Elevators, escalators, and stairways within buildings may provide additional linkages between the two levels. All pedestrianways shall be well lighted and designed to minimize security problems.

Appropriate rules shall be established requiring the provision of pedestrianways for developments.

BIKEWAYS - Presently, there are no bikeways or designated bicycle routes in the Mauka Area. Bicycle usage in the Mauka Area is very low according to a study by the State Department of Transportation. However, an improved bikeway system should encourage greater bicycle

usage within and through the Mauka Area, thereby lessening the dependency on the private automobile.

The bikeway system, shown in the Bikeway Plan Map (Figure 15) incorporates streets, bicycle lanes, and bicycle paths. Bikeway facilities shall provide an efficient use of available transportation corridors, and shall enhance safety for bicyclists, pedestrianways, and other users. Bicycle lanes shall be provided only on improved streets where appropriate space has been provided.

There shall be no designated bicycle lanes on minor or local streets, and bicyclists shall share the street with other vehicles. The local streets shall lead bicyclists to bicycle lanes or designated bicycle routes along collector or major streets. Bicycle paths shall be provided in parks and other exclusive bicycle/pedestrian areas. These bikeways shall tie into the regional bikeway network.

The regional bikeway network includes a bicycle path in Ala Moana Park, and bicycle routes on King and Beretania Streets. Bicycle lanes shall be provided on South Street, a portion of Kamakee Street, Ward Avenue and Pensacola Street; and these shall connect to the King Street bicycle lane. Ewa-Waikiki connector lanes shall be provided on one side of Pohukaina Street up to Ward Avenue, continue along Ward Avenue up to Halekauwila Street. The bicycle lane will continue on the Halekauwila-Queen Street leg of the couplet up to Pensacola Street. Although the other streets are not designated bikeways, bicyclists will use them to gain access to the bikeway system.

Bicyclists shall not be allowed to ride their bicycles on the pedestrianways as they will pose a hazard to pedestrian movement.

To encourage use of bicycles, bicycle racks, rental lockers, bicycle storage areas in public parking garages, and other bike accessories shall be provided. These facilities should be located in readily accessible spaces which are well lit and secured, but generally underutilized, such as corners of parking areas and under stairways.

The design of bikeways shall be guided by the "Bike Plan Hawaii" Final Report (State of Hawaii, Department of Transportation, Statewide Master Plan for Bikeways, March, 1977), and bikeway standards established by the City and County Department of Transportation Services.

Appropriate rules shall be established to implement these policies.

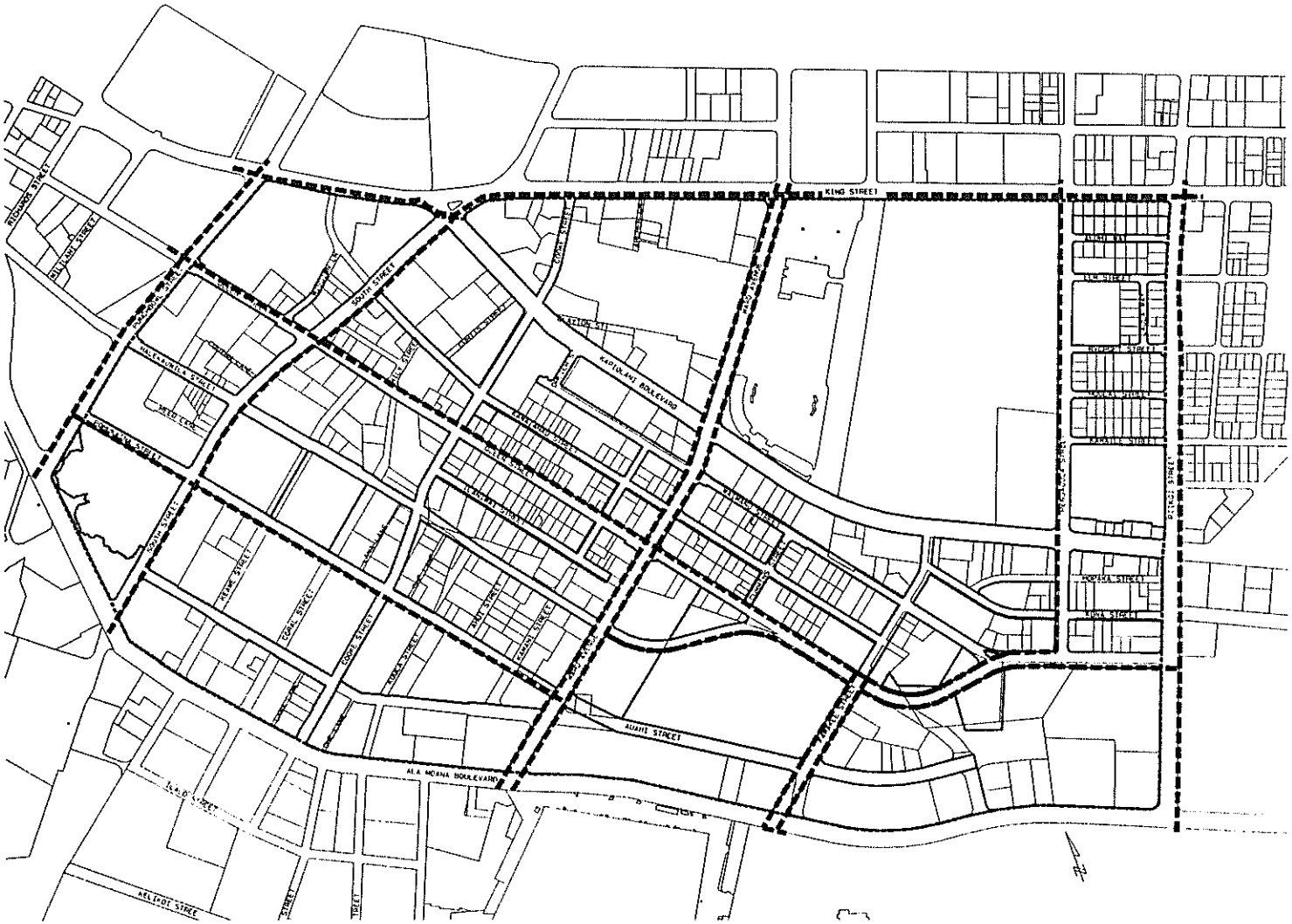

Figure 15

MAUKA AREA PLAN

Bikeway Plan

Mauka Area Boundary

Bikeway Route

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PUBLIC TRANSPORTATION - The public transportation system is shown in the Transportation Plan Map, and includes the City's bus system, the City's proposed Honolulu Area Rapid Transit system (HART), and the contemplated internal loop shuttle bus system which would be developed within the Mauka Area.

The HART system has been incorporated because it is a part of the City's existing transit policy for Honolulu. The alignment and station location shown is based on the City's preliminary studies and proposals. All proposed development projects within the alignment and station location shall be coordinated with the appropriate City agency.

The City bus system will provide the major form of public transportation for trips to and from the Mauka Area. Improvements to the bus system shall include, but not be limited to, increasing the level of service, relocating bus routes, and other modifications to meet increasing demands as development and roadway improvements in the Mauka Area progress. Shelters and benches shall be required at all bus stops.

The City bus system shall be augmented by an at-grade shuttle bus system designed primarily for internal Mauka Area trips. The Authority may develop or provide for the development of the shuttle bus system should the need arise. This shuttle system may consist of vehicles similar to, but smaller than, standard City buses, and with more passenger capacity than automobiles. Three one-way internal loop routes are proposed and implementation shall be phased as development progresses. The proposed routes are intended to facilitate the distribution of people to and from the proposed HART station, public parking garages, shopping and employment centers, and other destination areas within the Mauka Area.

OPEN SPACE AND RECREATION PLAN

A community's open space can be identified in terms of systems and areas. Open space systems are continuous networks of open space that result from public rights-of-way, view corridors, building setback areas, parks and private open spaces. Open space areas may be at grade or on upper levels, and are noncontiguous, unbuilt and unobstructed spaces between and adjacent to public and private structures.

A community's recreational resources include areas and facilities provided for active and passive recreational pursuits. Recreation facilities include parks, structures and areas built or made available for recreation. Recreation areas can be located in a number of places, at grade, on the decks of platforms, on the decks of public parking garages, within landscaped areas, and in interior building spaces designed for recreation use.

Mauka Area-wide studies revealed that existing open spaces are generally disorganized, disjointed and frequently hidden or inaccessible. The net results are that such spaces do not presently function as a part of the Mauka Area's open space system. Studies further show that the Mauka Area lacks recreational facilities and areas that relate to human activities with the result that the recreational needs of residents and employees will continue to be frustrated if such facilities are not provided.

It is a fundamental policy of this plan that open space, parks and recreation areas shall be provided by the public and private sectors, individually and jointly, at appropriate locations within the Mauka Area as an integral part of the Mauka Area's redevelopment. Implementation of this policy will ensure that the living and working environment in the Mauka Area will be attractive and desirable to residents, workers, and visitors.

The manner in which open space and recreation resources are made available merits consideration. The Authority studied and analyzed the spatial needs of the various land uses to be contained in mixed-use development and the anticipated open space and recreational facility expectations of their users. Based on these studies, the Authority concluded that open space and recreational land must be functional with respect to location, size and character to satisfy recreation and amenity expectations. Furthermore, the amount of open space and recreational area should not be so extensive as to unduly restrict the capacity of a development to generate reasonable economic returns.

This plan ensures that public and private actions facilitate the creation of open space systems, as well as provide for sufficient on-site recreation and open spaces. This "systems" approach recognizes that the typical open space and recreation needs of a resident have community-wide as well as site-specific dimensions.

Open Space Proposals

The importance of providing open space stems from the valuable public purposes it serves. Open space provides visual and psychological relief from urban developments; assists in providing adequate light and air to land uses; creates opportunities for on-site active and passive recreation activities; serves as linkages among activity centers and uses; and allows for utilization of the natural elements of wind and sunlight.

The importance of open space is recognized in Chapter 206E, HRS, development guidance policies for the Mauka Area. One such policy calls for open spaces to be provided as one of several "necessary community facilities" to be contained within residential developments. This plan ensures that available open space benefits and amenities are available to those who work and do business with commercial and industrial establishments. Other existing public policies also recognize the need to provide developments with adequate and useable open spaces.

This plan addresses open space in terms of systemic or community-wide requirements as well as on-site open space development requirements. The plan considers on-site open spaces to be parts of, and contribute to, the development of community-wide open space systems.

Systemic Open Spaces

Public rights-of-way include streets, pedestrianways, unobstructed public easements, public sidewalks, public bike paths, and other similar public routes which are available to the public for travel or for their scenic pleasure. It is within those traveled public ways that impressions of the environment are formed. The streetscape and physical design character which can be viewed from other public ways convey a certain feeling or impression about the character of the community, block or neighborhood. The conveyed images include the kinds of activities available therein, the economic status of workers and residents, and the feeling of security in such an environment. In sum, such public ways are the areas of contact between residents and visitors to the community. They are also the conduits for commerce, social interchange, recreation, and other people-oriented activities which give breath and life to a community. Therefore, it is important that open spaces do more than just facilitate movement within a community; they must also appeal to, and stimulate, personal interests.

STREETS - Consistent with the open space purposes that streets must serve, this plan provides for facilities and improvements within structures. Among them are landscaped areas including plantings; public convenience facilities such as benches and kiosks; building features and facades; street furniture; and street signs and graphics in harmony with the adjacent streetscape. None of these characteristics and features shall detract from or interfere with creating and maintaining an open character within the streets and with views from the streets of significant natural, historic, or cultural features and amenities. Further, the streets themselves, being parts of the community's open space systems, shall contain convenient and safe pedestrian access points or areas to public open spaces such as parks and playgrounds.

UNOBSTRUCTED PUBLIC EASEMENTS - Public easements for public utilities, facilities, or other improvements, which do not traverse the public rights-of-way, often present opportunities for increasing the community open spaces, as well as linking existing and proposed public and private open spaces to form an integrated open space system. Whenever such easements are created, every reasonable opportunity shall be taken to have them appropriately landscaped and developed to tie into the system. If such easements are of sufficient size, every effort shall be made to develop them as self-contained recreational areas, as well as to serve as buffers between structures.

PEDESTRIANWAYS - Sidewalks, and other pedestrian paths, whether elevated or at grade, enable people to move within the community, and link public and private open spaces and recreation areas. The plan provides for the creation and maintenance of pedestrianways at grade, along commercial and industrial uses, and as links between land use activities and recreation decks situated atop the 45-foot building platforms. Such pedestrianways shall contain appropriate furniture, landscaping and other design features. For example, the upper-level pedestrian paths shall be designed to facilitate jogging, leisurely walks and rest stops. The heavy use anticipated for such pedestrianways suggests a need for landscaping along such paths to make them an interesting and aesthetically pleasing part of the open space system.

VIEW CORRIDORS - View corridors are an important part of a community's open space resources. It is within and through these spaces that an individual can gain a total perception of the community's physical makeup and of the arrangement of man-made and natural elements. It is within and through these spaces that people experience the scale of their surroundings and the capacity of the environment to satisfy their need for privacy, social

contact, and recreation. View corridors enhance an individual's sense of orientation of things and places in the community. Finally, view corridors allow for the penetration of natural light and the flow of winds throughout the community.

In accord with the above purposes of view corridors, it is the policy of this plan to bring about their creation and maintenance during the process of redevelopment. Both the public and private sectors shall address view corridors in the design of mixed-use developments. When necessary, public acquisition of air space in order to develop or protect such resources shall be considered. Requirements for creation and preservation of view corridors are detailed in the Land Use and Urban Design sections of this plan.

BUILDING SETBACK AREAS - Building setback areas, or front, side and rear yards comprise part of a community open space system. However, their primary purposes are to ensure that adequate space is provided between buildings so that adequate light and air can reach each building, and to lessen the risk of potential fire hazards and other dangerous conditions. Such "openness" also forms visual breaks among adjacent structures wherein at-grade landscaping can be placed to increase the amount of greenery on the building site and among neighboring building complexes. Permanent land use activities shall not occur within such setbacks.

Accordingly, land developments within the Mauka Area shall have a minimum front yard setback of 15 feet, and side- and rear-yard setbacks in accordance with the requirements of the Mauka Area's community development rules.

PARKS AND PRIVATE OPEN SPACES - Public and private parks and open spaces are the key areas of open space within a community. When connected by easements, sidewalks, pedestrianways, streets, and similar paths for moving people, they combine to form the backbone of a community's open space system. This section addresses the systemic aspects of such open spaces.

Adequate open space for public use requires the provision of community-wide open space systems and open spaces provided on a site-specific basis. This is particularly important for a community characterized by finite land resources and intense competing land uses. The coordination of public and private open space resources will ensure that the full array of resident, worker and visitor open space needs are met. Accordingly, the location and design of open spaces within a

development shall be consistent with the prevailing character of the open space system running through the surrounding vicinity.

Open Space Areas

Open space areas were defined earlier as noncontiguous, unbuilt and unobstructed spaces atop, between and adjacent to public and private structures. This definition considers the character or quality of the space and land set aside for open space purposes throughout the community. Such land and space qualify as open space areas only if they meet the terms of the definition.

This section addresses the amount, design, and location of privately provided open spaces.

AMOUNT OF PRIVATE OPEN SPACE - In the provision of private open space, other competing economic, social and environmental demands upon the same finite supply of land and space come into play. This also relates to the well-being and/or interests of owners, residents and employees expected within a development. Accommodating such demands requires that the amount of open space within a development site be considered and determined in relation to the net buildable area so that reasonable economic returns can be obtained from the development. On the other hand, open space must be functional with respect to meeting the public purposes. It is therefore a policy of this plan that on-site open space, in addition to building setbacks and parking areas, shall be required in all developments. This open space shall be located at grade or on the decks of platforms. Ten percent of the lot area shall be provided as open space at grade. An additional 20 percent of the lot area shall be provided as open space at grade or at any elevation up to the platform deck level in all projects obtaining a planned development permit. Whenever platform decks are created, these areas shall contain an extensive proportion of the open space not required at grade.

LOCATION OF PRIVATE OPEN SPACE - The location of private open space within a development site is critical in terms of their public purposes. The bulk of such spaces are encouraged to be located on the decks of the 45-foot high platforms so as to make them available for recreational, visual relief, and amenity purposes. Such deck open spaces shall also be arranged, whenever possible, to link up visually and physically with other public open spaces.

Another portion of the required on-site open space shall be located at-grade to serve or compliment grade-level uses. Such at grade spaces can take the form of malls, and/or landscaped areas. For the purposes of this plan, at grade open space shall be located at the elevation of the sidewalk on which the property fronts or up to four feet above the sidewalk level.

DESIGN OF PRIVATE OPEN SPACE - The development of mixed uses within a single site creates the need for on-site open spaces as well as for open spaces near the site. Therefore, privately provided open spaces should augment visually, and physically whenever possible, nearby public open spaces. The configuration of such spaces shall result in useable contiguous areas. When possible, such open spaces shall be contiguous to the public open space system. Open space that is long and narrow is to be avoided.

Open space, whether publicly or privately provided, is a critical element of the Mauka Area's urban design character. Open space enhances the economic value of properties and the identity and character of built-up areas. The policies above, therefore, are intended to achieve the public purposes for open space.

Recreation Proposals

As with open space, the responsibility for providing recreation areas and facilities rests with both the public and private sectors. Therefore, this plan ensures that recreational areas and facilities are provided by both sectors to meet the demands generated by redevelopment of the Mauka Area.

The importance of recreational opportunities throughout the Mauka Area was recognized in the Legislature's development guidance policies for Kakaako Community Development District. The Legislature called for open spaces and parks to be provided as "necessary community facilities" within residential developments. The importance of adequate and attractive recreational areas and facilities suitably located to residents, patrons, and workers is recognized in this plan.

In meeting the objective of providing useful and accessible recreational facilities and areas, this plan addresses: (1) the utilization of available public resources to achieve maximum benefits for the Mauka Area residents, employees and visitors; and (2) the provision of complementary recreational areas and/or facilities by the private sector.

A total of approximately 75 acres of recreation space would be used within the Mauka Area at full development. Approximately half of this space would be provided in public parks and half would be provided in private developments.

Publicly Provided Recreation Amenities

The public sector shall provide parks and recreation space based on projected population requirements at total development. The public recreation areas should emphasize the provision of large playfields and game court areas since these activities often need more space than is available on any single development site. The major public areas are shown in the Open Space and Recreation Plan Map (Figure 16). The provision of such space shall be guided by present City standards as defined in Figure 17.

Existing facilities and open areas at Mother Waldron Park, McKinley High School, and within the Neal Blaisdell Memorial Center constitute part or approximately 15 acres of the recreation acreage provided by the public sector. The remaining portion shall be obtained by land acquisition, fees from public facilities dedication requirements, or by special assessment.

The provision of public parks would make a full range of active and passive recreational outlets available to residents, employees and visitors to the Mauka Area. The following describes various park categories, their general locations, and the types of recreational activities anticipated within each park category.

MINI-PARKS - Mini-parks provide immediately accessible recreational spaces for people living and working in surrounding areas. The kinds of activities normally found within such parks include tot lots, small playgrounds and/or a particular type of recreation game court. However, the relatively small land area -- a maximum of 10,000 square feet -- limits the amount of activity to at most two activities.

The location of mini-parks, as indicated in the existing standards, shall be at grade or on the decks of platforms.

The provision of such parks by the public sector would be contingent upon available public resources for development and maintenance.

MAUKA AREA PLAN

Open Space Recreation Plan

- Mauka Area Boundary
- Elevated Pedestrianway
- Park/ Parking Garage
- Park at Grade

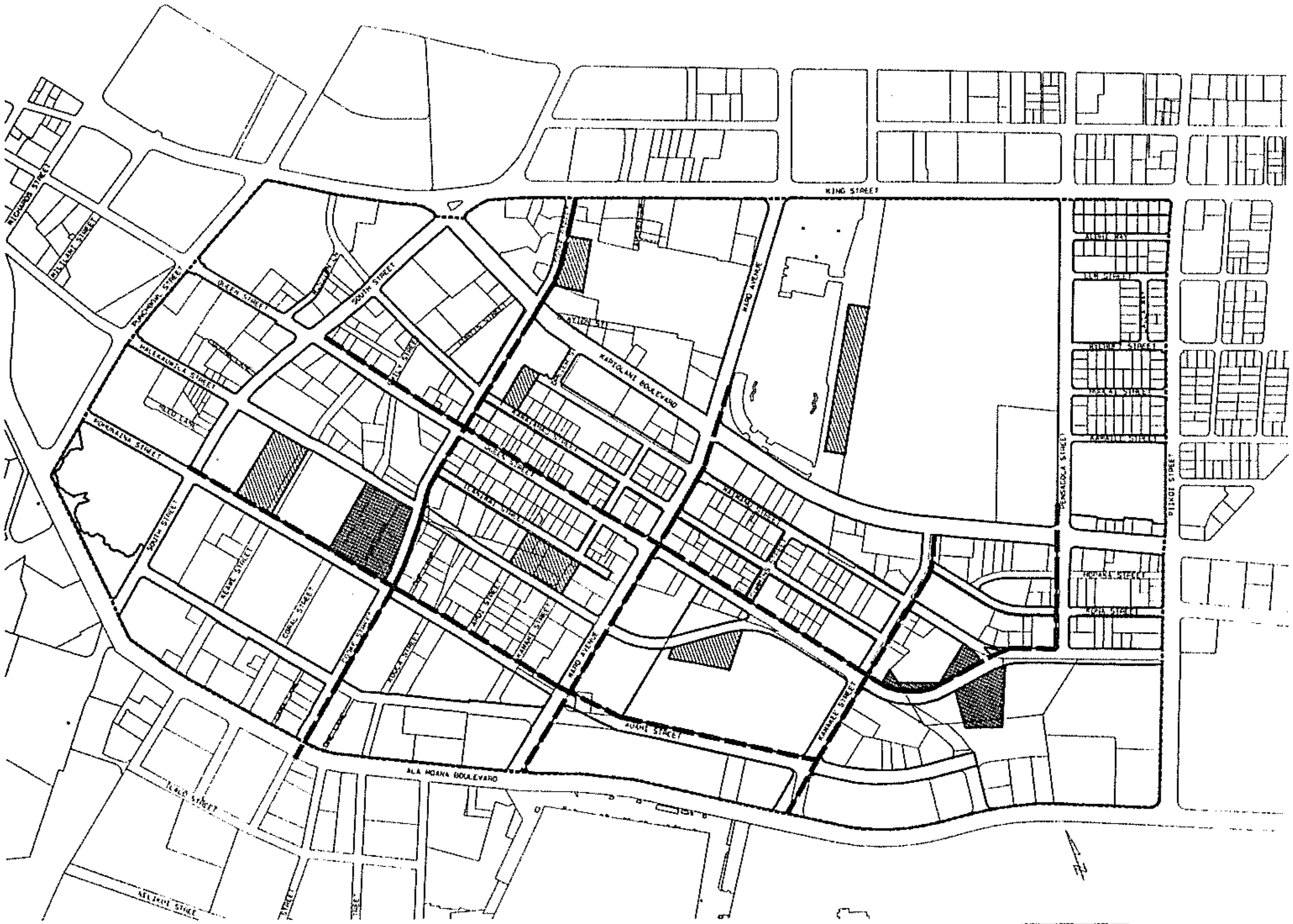

Figure 16

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URBAN PARKS - Urban parks provide immediately accessible passive recreational space primarily to satisfy the needs of patrons and workers of nearby commercial and industrial uses. Such parks provide places for momentary rests and breaks from shopping or work. Hence, such parks should contain benches, landscaping, features that facilitate relaxation, and other improvements designed for passive recreation.

The location of urban parks, as indicated in the existing standards, may be at grade and on the decks of platforms.

The opportunity to develop urban parks shall be available to developers as a means of satisfying all or part of their on-site recreation and open space requirements. The public sector may develop urban parks in the same way as it would develop mini-parks.

NEIGHBORHOOD AND COMMUNITY PARKS - The development of neighborhood and community parks rests primarily with the public sector. These two types of parks are treated together due to their similar characteristics. In these parks, facilities such as fields for organized sports, game courts, and other similar recreational pursuits will be provided. The Open Space and Recreation Plan Map (Figure 16) identifies sites proposed for public parks. These areas are located at the 45-foot level above a public parking garage. The only exceptions to this situation are at the site of the existing Mother Waldron Park where the park will be at grade and alternative parking facility designs within development projects. Waldron Park is proposed at grade based on the development of an at-grade elementary school next to it. Alternative parking facility designs for specific parking projects within development projects may be submitted for approval to the authority without a public park at the top level. The combination of parking facility and development project shall be practically, aesthetically and economically superior to the alternative of constructing the parking facility and development project separately. The authority must also find that the proposed parking facility and development project will not result in an increase of adverse effects to adjacent developments or uses, and that the result will be consistent with the intent of the Mauka Area Plan.

REGIONAL PARKS - Within close proximity to the Mauka Area will be two regional parks -- the existing Ala Moana Park and the proposed Waterfront Park makai of the planning area. Both facilities will serve the greater Oahu area.

FIGURE 17: PARK STANDARDS

TYPE	LAND AREA	SERVICE AREA	POPULATION SERVED
Mini Park	10,000 sq. ft.	Adjacent to family housing areas, ground or upper level	2,500 residents
Urban Park	10,000 sq. ft.	Adjacent to employment centers, ground or upper level	2,500 employees
Neighborhood Park	2-5 acres	Central to each neighborhood, ground or upper level	5,000 residents
Community Park	5-10 acres	Central to neighborhoods served	10,000 residents
Regional Park	50+ acres	Convenient to planning area	10,000+ residents

PARK & RECREATION FACILITY STANDARDS BY POPULATION SERVED

Facility	Population Served
Soccer or Field Hockey Fields	5,000
Softball Fields	5,000
Little League Fields	25,000
Football Fields	25,000
Badminton Courts	Variable
Volleyball Courts	2,500
Tennis Courts	4,000
Basketball Courts	2,500
Playground Equipment Facilities	5,000
Swimming Pool Facilities	25,000

Source: City and County of Honolulu Department of Parks & Recreation

Due to its current heavy usage, Ala Moana Park is not considered to be capable of serving the recreational needs of the anticipated population of the Mauka Area on a sustained and effective basis. Therefore, the proposed Waterfront Park will be a major recreational outlet for the Mauka Area residents, employees and visitors.

The Waterfront Park is expected to be about 60 acres in size. The facility will provide opportunities for a mixture of active and passive recreational pursuits such as picnicking, strolling, jogging, field and court games, fishing, surfing, and other land and water-related activities.

Privately Provided Recreation Amenities

This plan ensures that a reasonable amount of recreational space is made available commensurate with the demands, needs and number of residents and employees generated by private sector developments. Accordingly, it is a policy of this plan that private on-site recreation space and facilities shall be provided by the private sector. Mauka Area-wide on-site recreation standards are based on City standards but modified to meet the demands of the land use mixture anticipated within the Mauka Area. Therefore, the amount, location and type of private on-site recreation areas shall be as follows:

1. RESIDENTIAL USE:

Area:	55 sq. ft. of recreation space per dwelling unit.
Location:	At any elevation.
Recreation Activity:	Active and passive

2. COMMERCIAL USE:

Area:	37.5 sq. ft. per each 1000 sq. ft. of commercial floor space.
Location:	At any elevation.
Recreation Activity:	Passive

3. INDUSTRIAL USE:

Area:	25 sq. ft. per each 1000 sq. ft. of industrial floor space.
Location:	At any elevation.
Recreation Activity:	Active and Passive

The recreation areas provided in any development project may be located in that development's required open space.

URBAN DESIGN PLAN

Urban design is an end state. It is a picture, at a given point in time, of a community with respect to its physical form and shape, color, activity patterns, landscape texture, open spaces and natural assets, and other attributes which come together to make a visual statement about the economic stature and quality of life in that community. Therefore, "urban design" of a community is the visual product of countless public and private actions.

Urban design is also a purposeful exercise through which the arrangement of activities, structures, and vegetation are proposed, reviewed, modified and finalized, so as to bring about a desired objective concerning the use of space or land. Under this definition, the "urban design" of a community encompasses not only the physical appearance and atmosphere created in its various parts, but also the design practices that will be acceptable to the community. Such practices are the methods the community has chosen to bring about certain desired appearances and atmosphere within the urban landscape.

Everyone in the community has a vested interest in and can benefit from its urban design. An attractive and functionally designed environment attracts people who, in turn, become the customers of businesses and residents of homes located within or nearby. Spacious well-designed open areas, and easily accessible and safe recreational facilities and areas encourage people to be active and socialize, benefitting themselves and nearby businesses. Such areas allow sunlight and air, with their uplifting effects, to weave throughout the many parts of the community reaching all who live and work there, while at the same time, make available to them privacy and views

that would otherwise be lost behind closely packed buildings. Diverse land uses occupy the same structure and being compatibly located and designed make for exciting lifestyles as well as efficient living.

In Chapter 206E, HRS, the Legislature recognized the very important role of urban design in the redevelopment of the Kakaako District. The Legislature's guidance policies describe desired design results that are to be achieved during and after redevelopment. In effect, the Legislature has set forth: (1) the design practices it desires to have implemented during redevelopment; (2) the physical environment it deems proper with respect to land use, transportation, housing, and other community attributes; and (3) the kind of end state community it deems appropriate for the Kakaako District in 25 to 30 years.

The purpose of this Urban Design section is to describe in detail that end-state community. This is accomplished by describing the appearance or atmosphere of the community and stating the policies of the redevelopment design practices which will assist in realizing the end state.

Urban Design Proposal

Today, the Mauka Area is essentially the result of numerous transitions in land uses that have taken place over the past 80 years. These parcel-by-parcel changes are but bits and pieces of an overall gradual change of the Mauka Area from a residential community to a semi-commercial and industrial area. Consequently, the Mauka Area lacks cohesion and its uses appear disorganized. The absence of comprehensive planning and redevelopment have contributed much to this current problem.

This plan is committed to the redevelopment of Mauka Area in accordance with the development guidance policies expressed in Chapter 206E, HRS. A major responsibility which accompanies that commitment is the task of ensuring that the planned community design will promote the social and economic goals that the Legislature has set forth for the Mauka Area. The following sections describe the urban form and related detailed urban design policies that will bring about achievement of those goals.

Mauka Area Urban Form

ABOVE THE 45-foot PLATFORM LEVEL - In physical form the Mauka Area will be a diverse community with slender towers seeming to rise from the decks of platforms. The platforms generally will be 45 feet in height. The towers will contain housing with some office commercial space. They will be dispersed throughout the Mauka Area, some reaching 400 feet in height. Their shape and size will permit views from within and outside the Mauka Area. Their orientation and siting will be controlled to minimize blocking of major view objects observable from within and outside the Mauka Area. Towers will typically be situated upon a large, heavily landscaped deck. Towers should be unique as well as functional in design and appearance; and a variety of forms will be encouraged throughout the Mauka Area to achieve further community diversity.

Forty-five foot high platforms will be present throughout the Mauka Area, forming "new land" upon which people-oriented spaces will abound. In effect, the decks of these platforms will become a new "living" environment. Requiring open space on these decks will allow the development of heavily landscaped open spaces between towers. This will result in broad views of green shrubbery and vegetation from the windows of residences and offices.

The landscaped decks will also be a place of recreation. Leisure activities such as jogging, swimming, picnics and court games will be accommodated. During the working day, employees of businesses located within the Mauka Area will be able to utilize the park-like decks to enjoy their lunches and breaks, and maybe even engage in some form of physical exercise. In the evening hours, residents and their guests would use the same park-like settings for recreational activities; socializing, barbequeing, and other relaxing activities will also be enjoyed. To ensure individual safety, the park-like decks will be well lighted at night and may require security personnel as needed.

Also expected to locate on the decks of platforms are certain convenience or specialty retail shops together with public facilities such as small public and private parks and recreation areas. Child and elderly care centers capable of serving residences and offices in the immediate vicinity are foreseen. Ornamental features in certain areas designed to facilitate passive recreation, benches and rest areas, pedestrianways for leisurely strolls will also be provided. All of these uses and

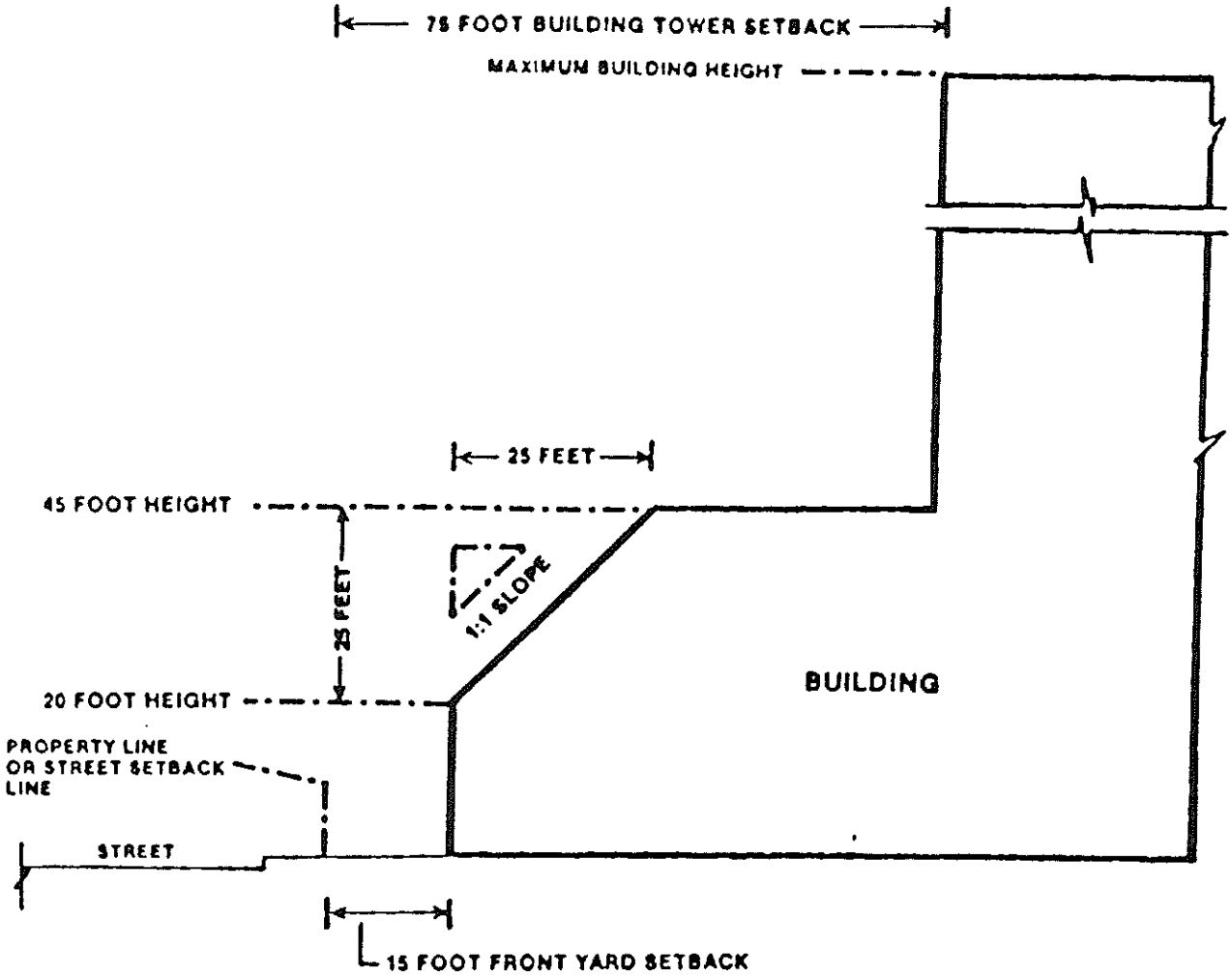
appurtenant structures, will compliment the park-like settings and recreation activities occurring on the decks and will encourage use by residents and employees from nearby.

The upper-level pedestrianways will connect adjacent decks, creating a system of open space. In addition to the recreational purposes they serve, the pedestrianways shall also be the key mode of movement between residences and offices, and the many retail stores expected to locate within the various platforms.

Access to all of the activities and uses occurring on the decks from the commercial uses and parking areas within the platforms and from the streets will be provided by elevators, steps, ramps and/or escalators. These will link businesses and grade-level activity with the park-like decks and towers above.

AT GRADE AND WITHIN THE PLATFORM - A walk in the mauka direction along any major street would provide many visual experiences. From most of the mauka-makai streets a framed view of the Koolau mountain range will be experienced due to view corridor setback requirements. Landscaping and selected street trees will extend the length of the corridor. Buildings at grade will be set back from the street beginning at the building setback line, and on view corridor streets terraced from the street at a 1 foot setback per 1 foot of height up from the 20-foot height to the 45-foot height where the platform decks are located (Figure 18). Within that terraced portion, landscaping that is harmonious to and complimentary with the building facade will be required. Such terracing will create a gradual transition to the upper levels. The residential/office towers on the upper levels will not have an overpowering appearance from the street due to their slender shapes and setback requirements.

At the street level, a look to the left and right will reveal building facades which are in harmony with respect to shape, texture, appearance, color, informational and advertising signs, and other characteristics. In front of these facades and within the required front yard setback areas will be landscaping and wide sidewalks. There may be an occasional outdoor lanai connected to an adjacent eating establishment, enhancing the visual diversity of the streetscape. On all major roadways, street curbs will not be lined with parked vehicles ensuring a pedestrian orientation even at this level. With the exception of street lights, traffic signals, fire hydrants, and emergency phones, no overhead wires or structures will appear within the streetscape.



BUILDING SETBACK FOR PLANNED DEVELOPMENTS

(ALONG VIEW CORRIDOR STREETS)

Figure 18

The use of benches, bus shelters and street trees located adjacent to the public rights-of-way will unify the streetscape. Minor streets will display similar characteristics as major streets with the exception of the terraced facade. The terrace facade is the result of the 1-to-1 setback required along the view corridor streets.

Within the interior of the 45-foot high platforms, many activities will take place in an organized and harmonious fashion. Shoppers will patronize the stores, entering from the adjoining street, from elevators or escalators servicing enclosed parking structures, or from elevators and ramps linked with the office spaces and homes situated in the towers. Occasional arcades may be found within the platform interiors. Shops, restaurants, boutiques and other diverse commercial enterprises will occupy spaces set aside for commercial uses.

Light and service industrial activities, either separated from or attached to certain commercial floor space, will also be operating within the interiors of the platforms. To mitigate any adverse environmental effects on commercial and residential uses within the same or adjacent sites, industrial uses shall adhere to design performance standards established in the community development rules. Loading and unloading of goods and services to industrial tenants will take place in areas wholly screened from shopping areas, streets, and pedestrianways; in short, from public view.

This vision of the Mauka Area's future is achievable, since creative design standards and reviews are required of all new developments in the Mauka Area.

Plan Provisions

View Corridors

Major view corridors are intended to retain mauka-makai and Ewa-Diamond Head views along designated streets (Figure 19). These view corridors also reinforce the urban design objectives of providing light and air at street level by requiring upper-level setback of buildings away from the street.

Streets designated for view corridor preservation include: Piikoi, South, Punchbowl, Cooke, Kamakee, Ward, Queen, Kapiolani, Ala Moana, King and Pensacola.

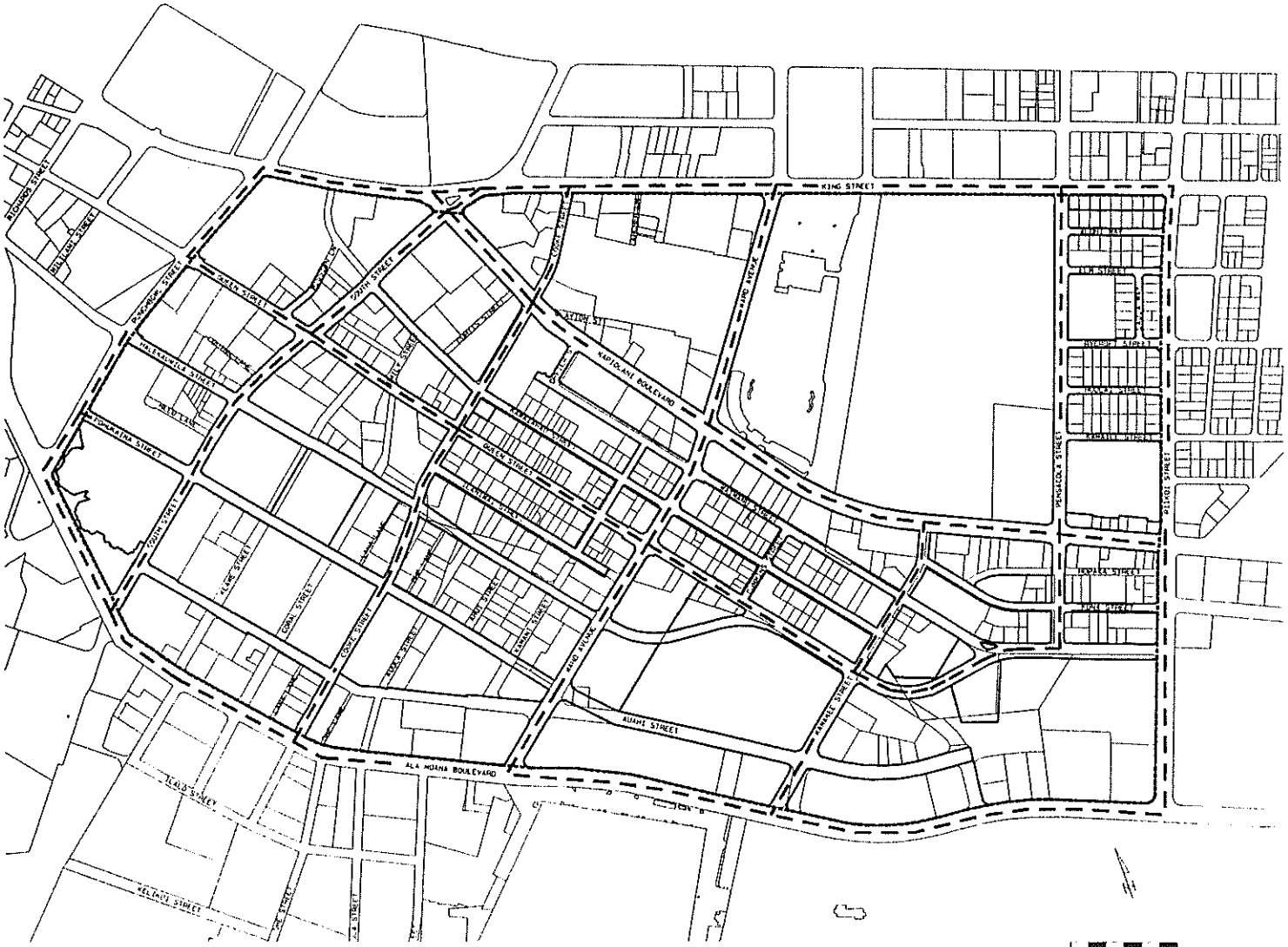


Figure 19

MAUKA AREA PLAN

View Corridor Streets

Mauka Area Boundary

Streets designated as view corridors

April 1999

View Corridor Setback Requirements

View corridor setbacks control the location and configuration of buildings. The view corridor setback starts at the yard setback line and includes a 1:1 sloping plane from the 20-foot height level to the 45-foot height level resulting in a 40-foot setback from the property line or the proposed roadway setback line to the edge of the platform deck. A setback of 35 feet shall be imposed from the deck edge to the base of the tower. In total the tower will be a minimum of 75 feet from the property line or the proposed roadway setback line. These setback requirements apply along the designated public streets. The configuration of the view corridor setback is depicted in Figure 18.

Tower Coverage

Above the platform deck (45 feet) the tower or other structure may not cover more than 8,000 square feet for Planned Development lots of 20,000 square feet up to but not including 40,000 square feet in size; no more than 14,000 square feet for Planned Development lots of 40,000 square feet up to but not including 80,000 square feet in size; and no more than 16,000 square feet for Planned Development lots of 80,000 square feet.

Number and Height of Building Towers

One tower will be permitted for each planned development lot of 80,000 square feet or less. The height and size of any tower will vary according to the size of the parcel and proposals toward meeting public policy objectives. For lots greater than 20,000 square feet but less than 40,000 square feet, the tower shall not exceed 100 feet. For lots greater than or equal to 40,000 square feet but less than 80,000 square feet, the tower shall not exceed 200 feet. For lots greater than or equal to 80,000 square feet, a maximum height of 400 feet shall be observed.

Building Spacing (Tower) Guidelines

Spacing between building towers is predicated upon the tower location on a parcel and distances among neighboring towers. On-site tower location is determined by view corridor setbacks, upper-level setbacks and tower coverage. Within those parameters, final tower location is determined by the designer with the approval of the Authority in the Design Review Process. If at all physically possible, the long parallel sides of neighboring towers should be no closer than 300 feet. A 200-foot spacing between the short side of towers is recommended. For better air flow, long rows of parallel buildings shall be avoided.

Building Orientation

The Mauka Area's tropical climate is characterized as sunny and mild throughout the year. The desirable prevailing winds come from the northeast the year round while the seasonal kona winds come from the southerly direction. These winds bring thunderstorms and heavy rains, the frequency of which is about six times a year.

For low-rise buildings up to 45 feet in height, where the walls would not be greatly exposed to solar radiation (particularly if properly shaded), orientation for winds is desirable. The climate analysis in Phase III indicated that for the long axis of the building the recommended orientation should be between 25° and 55° east of south. This direction is optimal for catching the prevailing breezes.

Based on the climate analysis in Phase III avoidance of the sun should be the decisive factor for high-rise buildings taller than 45 feet in height. Thus, whenever possible, the long axis should be oriented between 35° and 65° west of south. This direction would minimize heatload by facing the narrower side of the building to direct sunlight, and sufficiently high to catch prevailing breezes. These factors shall be considered in the design review of all new buildings in the Mauka Area.

Solar Access Guidelines

Activities requiring direct sunlight tend to be recreational (e.g., sunbathing) or those using the sun as

an energy resource (e.g., solar heater collectors). Solar collectors become inefficient when the azimuth angle of the sun is greater than 45 degrees. The critical day is during mid-winter (December 21 or 22) when the sun is at its lowest angle in altitude. Consequently, calculations for solar access in the Mauka Area should use December 21 (altitude angle -25°) and the time between 9:00 a.m. and 3:00 p.m. (azimuth angles +45° to -45°). Building spacing shall be approved only after taking into consideration the shadow effect on neighboring buildings. Solar collectors may be placed on roofs and not necessarily on the ground as long as they are positioned and located to blend into the surrounding environment.

It is desirable for all buildings which enclose work or living activities to be penetrated by natural light.

Landscaping

Landscaping guidelines include the following treatment, individually or in combination: Ground covers, either plant material or surface treatment, i.e., cobble-stone paving; shrubs planted in the ground or in planters; trees; or an architectural feature, i.e., art piece.

Areas along the rights-of-ways will also be landscaped. Designated tree species should also be provided for visual continuity and shade along the rights-of-way. These tree species and spacing along streets are as follows:

Street	Tree Species	Guidelines
Ala Moana	Coconut Palm	variable
Cooke	Yellow Poinciana	25 feet*
Kamakee	Jack-in-the-box	25 feet*
Kapiolani, Piikoi, Ala Moana	Monkeypod	80 feet*
King	Rainbow Shower	25 feet*
Queen	Royal Poinciana	25 feet*
South	Autograph Tree	25 feet*
Ward	Native Wiliwili	60 feet*

* on center

Along major streets, the area between the curb and the sidewalk shall be landscaped. Plants should not exceed 30 inches in height. However, grass shall be grown in the areas adjacent to the curb where parking is allowed. Where landscaping is provided between the sidewalk and building, taller plant material is allowed, as in the case where screening is desired. In addition, street planters may be provided according to the following guidelines:

Street planters are defined as a container, portable or permanently fixed, used for the purpose of holding plant materials. The planters are to be located along major streets where sidewalks are greater than 8 feet wide. The base of the container should not exceed nine square feet. Planters provided by private land owners, should be located within the property boundary lines.

Trees, shrubs, and ground cover plant material in planters are required within private open space areas along street frontages. The ratio of planted areas to paved areas should be no less than 25 percent of the area between the sidewalk and the building. If there is any change in elevation from the sidewalk to the private open space area, it should be no greater than 4 feet. Storage areas, and work areas provided at ground level facing or open to the street, must be screened, with plant material or some architectural feature such as fencing that provides limited visual access.

Street Furniture

The purpose of street furniture is to provide customers and pedestrian amenities along the public rights-of-way. Street furniture prototypes were identified and analyzed by the Authority in Phase III. Among the street furniture that would be included are as follows:

FURNITURE	PURPOSE
Benches	To provide resting spaces along the pedestrian ways. To be located approximately 400 feet apart.
Bus Shelters	To provide resting/waiting areas along roadways for commuters. Located approximately in each block.
Kiosks	To provide for the dissemination of information to pedestrians. To be located approximately within each block.
Trash Receptacles	To provide for convenience of trash disposal along pedestrianways. To be located approximately 400 feet apart.

Whenever possible, the benches, bus shelters, and trash receptacles should be located together. The kiosks should be located near the bus shelters so that both may be used while people are waiting for buses.

Signs and Graphics

Signs and graphics provide information and are sometimes necessary for regulatory purposes. Informational signs are used for the identification of landmarks, buildings and establishments, and to provide directions. Regulatory signs are used for the purpose of controlling or directing some type of action such as traffic control signs. The use and design of these signs shall be reviewed and approved to ensure consistency and an attractive environment. Sign permits shall be processed by the City and County of Honolulu.

Lighting

Lighting shall be available to provide for the safe movement of vehicular traffic and pedestrian movement along the roadways and pedestrianways. Lighting shall also be required to provide illumination for safe ingress and egress from all establishments.

Street lights shall be provided on all streets as proposed in the utility section. Area lights shall also be provided at grade within planting areas as appropriate.

Ingress and Egress Guidelines

Ingress and egress guidelines provide for safe pedestrian and vehicular movement. Parcel location, size, and activity will necessarily govern actual design and as such will be an item of review by the Authority.

SIDEWALKS - Sidewalks or other features which provide for the entry and exit of pedestrians from an establishment shall be regulated to provide unencumbered access. Ingress points to an establishment shall accommodate the handicapped, according to the City and County Building Code.

DRIVEWAYS - Driveways for the entry and exit of vehicles should provide for safe movement of vehicles with limited conflicts with pedestrians. Exit points shall be left unobstructed at the property line. To the extent possible, entry and exits shall be situated more than 75 feet from an intersection.

Urban Design Review

Besides the foregoing regulations and guidelines, there are aesthetic considerations, the results of which can contribute to or detract from the urban design of Mauka Area. Such considerations may range from addressing the architectural design of a large-scale Planned Development project to detailed design elements such as the exterior surface texture of a single building. Also considered may be the heights of platforms and decks so that platforms of approximately equal height might be linked to one another. In all cases, the concern is with the aesthetics of the project relative to its immediate surroundings, as well as its relationship to the community.

While it is desirable to have some degree of control over aesthetic and design considerations, it is certainly undesirable to establish rigid parameters which would stifle creativity of design in the Mauka Area. Therefore, the Authority will consider matters of aesthetics and design in its process of design review of development projects proposed in the Mauka Area. These considerations shall be made in accordance with guidelines in the rules.

HOUSING AND HOUSING SUPPORT FACILITIES

The housing section pertains to the quantity of dwelling units, building types, unit types and projected residents of the Mauka Area. Housing support facilities include but are not limited to community centers, preschools, child day care and "senior" centers, elementary schools and playgrounds, health care facilities, libraries, police and fire stations, post offices, churches and neighborhood commercial services.

The Legislature, in establishing the Hawaii Community Development Authority, has determined that "...the district is relatively underdeveloped and has especially in view of its proximity to the urban core where the pressure for all land uses is strong the potential for increased growth and development that can alleviate community needs such as low-income housing, parks and open space, and commercial and industrial facilities...Kakaako has a potential, if properly developed and improved, to become a planned new community in consonance with surrounding urban areas."

In addition, the legislature stated that, "In coordinating community development in the Kakaako District, the authority shall plan a mixed use district whereby industrial, commercial, residential and public uses may coexist compatibly within the same area."

A specific Legislative mandate to the Authority with regard to residential activity in the Mauka Area is stated as follows:

> "Residential development shall ensure a mixture of densities, building types, and configurations in accordance with appropriate urban design guidelines; integration both vertically and horizontally of residents of varying incomes, ages, and family groups; and an increased supply of housing for residents of low- or moderate-income shall be required as a condition of redevelopment in residential use. Residential development shall provide necessary community facilities, such as open space, parks, community meeting places, child care centers, and other services, within and adjacent to residential development."

To address the concerns expressed in public policies, the Authority conducted an inventory of all existing housing and housing support facilities in the Mauka Area. It then analyzed the development potential of the

Mauka Area under existing and proposed public policies. Housing and housing support facilities were an integral part of this analysis. The Authority measured the capacity of the Mauka Area and the constraints which affected the attainment of this capacity.

In March, 1980, a special study was completed by the Authority. The Residential Standards Study formulated standards for the residential component of the Mauka Area Plan. The study offers standards for both housing units and housing support facilities to facilitate the achievement of the development guidance policies of Chapter 206E. Specific standards were provided for the kinds of housing, prospective occupant types, and the quantity of various kinds of housing, including benchmark or reference construction costs and selling or rental prices, appropriate to the Mauka Area. Standards were also formulated for various types of housing support facilities and services, including those required for different population sizes and service needs, and the physical relation to housing units which will be serviced by these facilities.

The Authority, with knowledge and understanding of the Mauka Area's many resources and their capacities as well as constraints for improvement and development, embarked upon a detailed examination of a wide range of feasible solutions to identified problems which prevented or precluded the attainment of housing and related social goals and objectives for the Mauka Area.

Various solutions were quantified through the creation of design and process prototypes or models. This provided the opportunity for testing and simulating land use combinations including housing and housing support facilities. Feasible solutions were then included as integral parts of twelve plan variations for analytical and evaluative purposes. This analyses subsequently led to the formulation of proposed solutions for the Mauka Area Plan.

Housing and Housing Support Facilities Proposals

This component was prepared in concert with the land use, open space, recreation, urban design, utilities, transportation and public facilities components of this plan. All components were developed so as to be consistent with each other and to facilitate the formulation of a housing and housing support facilities component that addresses community concerns and needs.

The plan recognizes that the demand for housing units which are available within the financial means of the majority of households, whether for rent or purchase, is one of the most urgent needs of the residents of this State. The plan therefore seeks to help meet that demand.

There exists a wide spectrum of households on Oahu in need of housing. By income categories these households include the very low income group; the low and low-moderate income group; the "Hula Mae" group; the Unserviced group; and the Unassisted group.

Households in the very low, low, low-moderate and Hula Mae income groups qualify for some form of existing government assistance, determined in part by family income adjusted by size of household. Households in the very low income group have annual incomes that are less than one half of the median income in the State (50 percent of $24,582 for a family of four as of 1981, or $12,291). The income of households in the low and low-moderate income group is 20 to 50 percent less than the median income ($12,291 to $19,666). The Hula Mae group's income ranges from 20 percent less to 20 percent more than the median income ($19,666 to $29,498).

High interest rates and increasing development costs have created the Unserviced households group. These households earn incomes greater than the maximum limits for the Hula Mae assistance but insufficient to buy a new home in the open market without government assistance. The number of Unserviced and Unassisted households (the latter being those whose incomes are such that they do not need government assistance) fluctuates with changes in the prevailing mortgage interest rates and/or terms.

Of the total Oahu households in need of housing, 12 percent are very low income households, 26 percent are low and low-moderate income, 7 percent are in the Hula Mae category, 30 percent are Unserviced and 25 percent are in the Unassisted group. It is a fundamental intent of this plan to provide a community with a proportion of households that helps meet the needs of all these groups. In order to achieve this objective, significant public investment and assistance will be required since presently 75 percent of these households cannot afford todays housing costs without some form of assistance.

Based on the planned allocations and densities of the mixed-use zones, the maximum total floor area for housing development is approximately 17,100,000 square feet. New and existing housing would therefore comprise about 47 percent of the total floor area. The total number of housing units and their location results from the total

amount of space (floor area) allocated for residential purposes in the various land use zones. Housing is permitted in Mixed-Use Zone-Commercial (MUZ-C), Mixed-Use Zone-Residential (MUZ-R), Mixed-Use Zone-Residential-A (MUZ-RA). The majority of housing units would be located above the 45-foot (above ground) level as part of mixed-use projects.

Development size, height limits and other development regulations will determine the location and siting of building types and the density of development. Since all mixed-use zones require mixing of uses, residential use would occupy different proportions of developable floor area according to the size of development and the designated mixed-use zone.

The Department of Housing and Urban Development's minimum property standards were used as a benchmark for minimum size of various types of housing units. Prototype studies were used to determine the appropriate amount of space needed for common areas such as building corridors, fire stairs, and mechanical rooms.

In addition, the ideal mix of dwelling unit types for the Mauka Area was derived from the standards recommended in the Residential Standards Study. The mixture was based on a projected profile of future Mauka Area residents comprised of four target groups; 1) urban core area residents, 2) existing Mauka Area residents, 3) elderly on Oahu and 4) those in need of housing on Oahu. Based on the characteristics of projected resident groups as well as the capacity of different building and housing types, a recommended mixture of housing units was formulated. This consisted of 13 percent studio, 32 percent one-bedroom, 30 percent two-bedrooms, 16 percent three-bedrooms and 9 percent four-bedroom units. This distribution of units can be accommodated in building types which range from "low rise to high rise".

Based on the average minimum dwelling unit size of 883 square feet (gross area) (see Figure 20), there will be approximately 19,000 dwelling units in the Mauka Area. The number of units projected for each income group is as follows: the very low income group - 2,280 units (12 percent), the low and low-moderate income group - 4,940 (26 percent), the Hula Mae group - 1,330 units (7 percent), the Unserviced group - 5,700 units (30 percent), and the Unassisted group - 4,750 units (25 percent). These housing units will provide housing for approximately 47,500 people (Figure 21).

Figure 20. Average Dwelling Unit Size

Unit Type (No. of Bedrooms)	Ideal Percentages	HUD Minimum Property Standards (in square feet)	Prototype Circulation in percentages	Gross Floor Area (in sq. ft.)
0	13%	500	30	650
1	32%	550	30	715
2	30%	650	30	845
3	16%	900	30	1,170
4+	9%	1,100	30	1,430
Totals	100%	740		883[1]

[1] Weighted Average

The plan will attempt to achieve a range of housing opportunities for households of varying incomes, sizes, and characteristics, but not necessarily replicate the same proportions identified in the Residential Standards Study. Differences in characteristics between the Mauka Area and the areas within central urban core are present, such as land values, intensity of use, types of land uses, and urban design standards. These differences will affect or influence the proportion of household types especially during the beginning or "formative years" of the housing inventory when most of the housing units are new, and priced accordingly. Thirty years from now, the average age of the housing inventory in the Mauka Area will be about fifteen years old and the pricing of "available" units at that time will reflect a broader level of quality, thus providing a range of prices and rentals, to meet the needs of a corresponding range of household types.

The 19,000 housing units are contemplated to be delivered in the 25 to 30 year time period. This represents an increase in the housing inventory, averaging about 630 to 760 units per year.

If the current trends of housing costs and prices continue, it is likely that only 25 percent of the ideal mix of households will be able to purchase or rent at market conditions; that is, without governmental subsidy or assistance. The remaining 75 percent of the Mauka

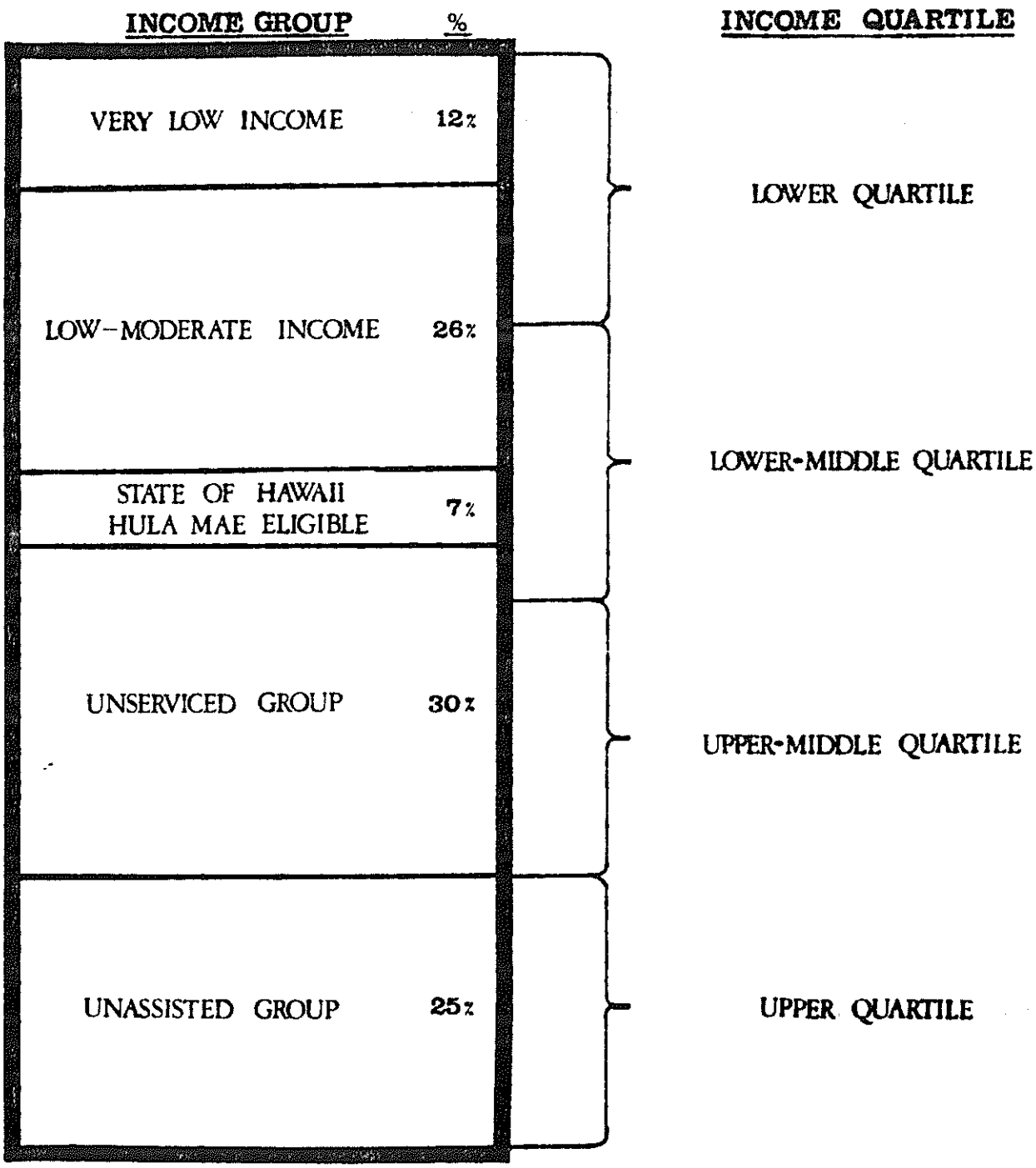


Figure 21

PERCENTAGE OF PROJECTED HOUSING UNITS BY INCOME GROUP

Area's future households will require not only a continuation or expansion of existing governmental housing programs and housing projects, but also the initiation of new programs to meet the housing needs of the elderly and the unserviced or "gap" group.

This plan sets forth in general terms the methods by which the projected number of housing units can be delivered. Three categories of "housing developers" are identified: private, public, and quasi-public or nonprofit housing developers. Each developer type will deliver housing units relative to the submarket each respective developer type seeks to capture.

The "private" developer will attempt to maximize his return in terms of the highest quality and/or price commensurate with his merchandising requirements. This will tend toward meeting the needs of the upper quartile of households as measured in terms of income and equity holdings.

Conversely, public housing agencies are designed primarily to meet the needs of the lowest quartile of households relative to income and equity. The bulk of these housing needs are evidenced by public housing projects.

The Authority recognizes that existing City, State and Federal housing programs can most effectively meet the needs of the lowest income groups. To achieve the ideal population mix, including these groups for the Mauka Area will require substantial State and County commitments, especially in light of reduced Federal funding. In 1980 dollars the cost of providing public housing units for the 25 percent of households with the lowest incomes is estimated to be approximately $430,000,000. To achieve only a small proportion of this number would therefore still be a substantial cost. The Authority can assist existing government housing agencies in providing these units. The Authority's role will be to provide the platforms on which these types of housing units can be constructed as well as to assist agencies in obtaining the required public funding.

In addition to private and public agency developers are the quasi-public or nonprofit housing companies. They and the private developer category will produce rental as well as owner-occupant housing with the assistance of HUD programs for the moderate-income or lower-middle income quartile of households.

The remaining upper middle-income quartile of households by and large, are not eligible for the lower

middle-income housing programs. Moreover, they do not qualify in terms of income or to meet mortgage payments at current terms for market priced housing units.

The thrust of the Authority's efforts at providing housing within the Mauka Area will be directed at the lower middle- and upper middle-income groups. The Authority will assist the existing governmental and nonprofit housing agencies in utilizing their programs in the Mauka Area. These programs are presently targeted to the lower middle-income groups.

In addition, the Authority will attempt to make housing units available to the remaining middle income households. The most effective method open to the Authority is to provide below market rate housing financing. This can be done by modifying or expanding the Hula Mae concept of utilizing revenue bond funds to provide below market rate financing. Through the use of revenue bonds, the financing rate for home mortgages can be reduced a number of percentage points.

The Authority will also explore use of modified financing programs such as "Graduated" and "Shared Appreciation" mortgages. Regardless of the program or financing method, assisting in the provision of housing units will necessitate the allocation of a significant amount of public funds. The Implementation program therefore identifies the needs for public funds for housing programs.

The plan further requires that all private developments of 20,000 square feet or larger utilizing the Planned Development procedures make available 20 percent of the proposed housing units to help meet the needs of those residents within the income range of 80 percent to 175 percent of the median income for Honolulu. The rules detail the mechanics of this requirement, but generally each development must provide housing to help meet these needs in order to obtain the increases in floor area and height available under the Planned Development process.

To ensure that the Mauka Area of the future will have an adequate amount of housing to meet the needs of a range of household types, the Authority has formulated a residential land use and space allocation method in conjunction with the development of practically all parcels in the area.

This process is described in the land use and planned development portions of the plan. As indicated in this discussion, the desired mix of housing units will require the efforts of all housing developer types.

Because of the mixed use nature of the Mauka Area, the Authority will provide development rights to housing agencies and nonprofit housing corporations in order that they can construct housing units on the 45-foot deck space. These units should help meet the needs of households who currently qualify for existing governmental housing assistance programs. Market-type housing will be developed by the private sector, subject to meeting the urban design, public facilities, recreation open space and other provisions of the plan.

In order to facilitate the development of housing on a coordinated basis, the Authority will integrate the construction of housing units commensurate with the capacity of programmed construction of infrastructure.

The development of various housing support facilities to accommodate resident needs is recommended by this plan.

Figure 22 lists standards for desirable service population and service radius for various housing support facilities. Standards for these facilities have been determined by government agencies or by private studies.

FIGURE 22: HOUSING SUPPORT FACILITIES

Desirable Facility	Desirable Service Population	Service Radius
Day Care Center	500 - 1,500	1/2 mile or 10 minute walking distance
Minor Health Facility	5,000 - 10,000	1/4 mile
Churches	500 - 2,500	1 mile
Commercial Service (drug store, supermarket)	3,000 - 10,000	1/2 mile to 3/4 mile
Community Center		1/2 mile
School (Elementary)	400	1/4 to 1/2 mile

With the projected increase in the number of families with children or elderly, child care and senior centers would be required in close proximity to housing. These activities are permitted in mixed-use areas with housing or within the public park facilities. Day care and elderly facilities are proposed to be developed in conjunction with the neighborhood and community parks in the Mauka Area. Day care facilities of between 3,000 and 6,000 square feet each are proposed to be located at the six largest parks in the area. These facilities along with the parks community centers will help provide the desired neighborhood focal point at each of these parks.

Major health care facilities such as Queen's, Kuakini and Kaiser Medical Centers, Straub Clinic and Hospital, and Kapiolani Children's Medical Center are available within a three-mile radius of the Mauka Area. Other health facilities such as doctor and dental offices, health information offices, and minor diagnostic centers will likely be located close to housing complexes.

The provision of elementary school facilities convenient to high-density residential development merits attention. The population generated by 19,000 new housing units would require a maximum of five (5) elementary schools within the Mauka Area. However, an analysis of the unused capacity of elementary schools surrounding the Mauka Area and the percentage of school age population attending public schools indicate that two is a more realistic estimate. These schools are to be located adjacent to major public parks. The location of these two elementary school sites is discussed more fully in the public facilities section.

Community meeting rooms will also be provided. Community centers would provide facilities for community meetings, social events and special occasions. Elementary school facilities could serve a dual function by providing space during nonschool hours, for community center activities, thus supplementing the proposed centers. The neighborhood parks (proposed in the Open Space and Recreation Plan) could include a senior citizen and recreation building that could also serve community social functions.

A range of commercial businesses will be conveniently accessible to residents because of the mixed-use development approach. These include drug stores, supermarkets, banks, restaurants, bakeries and retail stores.

Other housing support facilities are available to residents within a reasonable service radius. These

include a regional library, police station, fire station and post office. Existing facilities are deemed adequate to support the amount of housing proposed. Churches, which are more regionally oriented facilities shared by several neighborhoods, are permitted but are not proposed for any specific location.

Of primary importance in this housing and housing support facilities component is the concept of neighborhoods. Each neighborhood is expected to have its own character, and may contain gathering spaces, focal points, convenience stores, day care centers, and other facilities to meet the particular needs of the residents. These facilities will likely be located within walking distance or along circulation corridors, and permit easy access by residents. The neighborhoods are further defined and enhanced by appropriately designed open spaces and circulation corridors which connect neighborhood housing support facilities and various activity centers with housing. It is the policy of this plan that the Mauka Area's neighborhoods should vary in size, shape and character to accommodate compatible activities and provide a wide range of housing development, within or separate from other compatible and/or complementary land uses.

Housing and Housing Support Facilities Plan Provisions

In order to achieve the objectives of the Housing and Housing Support Facilities Plan for the Mauka Area, rules and regulations shall be promulgated and implemented by the Authority.

With regard to housing, land use district regulations control the location, amount and mix of new housing in the Mauka Area. Other development regulations such as varying height limits and maximum floor area ratios help to ensure a mixture of densities, building types and configurations. So that the Mauka Area's neighborhood environment will be exciting and aesthetically appealing, appropriate urban design regulations are formulated.

To carry out the policy of integrating residents of varying incomes, ages and family sizes, both vertically and horizontally, housing programs shall be formulated.

The provision of housing units for the very low, and much of the low, low-moderate income groups requires direct governmental assistance, not only in development, but annual subsidies as well. The provision of these units will therefore require the direct involvement of the

Federal, State or County government. The Authority will cooperate with existing governmental housing agencies to provide the Mauka Area's proportionate share of Oahu's housing units.

For the Hula Mae and Unserviced groups, the Authority shall conduct an aggressive program to assure units for these groups. This includes influencing private developers to enter this field of development. The Authority also expects to develop units for these groups while anticipating that the private sector will continue to accommodate the needs of the Unassisted group.

To assist private developers who provide affordable housing units, zoning incentives shall be provided. Such incentives may include, but are not limited to, increased densities of land use, increased height of buildings, increased commercial office space, reduction or relaxation of certain zoning restrictions, or any combination of these. The rules shall contain provisions restricting speculation by first buyers of government assisted housing units.

There will be a range of housing unit types from studios to 4 bedrooms to meet the varying needs of the Mauka Area's residents. The mix of unit types as well as the mixture of densities, building types and configurations provides a basis for the integration of residents of varying ages and family groups. Necessary rules and regulations to ensure such integration are also formulated.

With regard to housing support facilities, the design, quantity, sizes, location and accessibility of each facility is controlled through plan design review and dedication requirements.

To ensure the timely provision of day care and community centers, appropriate rules and regulations shall be adopted. Some of the costs of these centers shall be covered by revenues collected by the Authority from dedication requirements.

The provision of health care and commercial facilities are the responsibility of the private sector. These activities are allowed in mixed-use districts and are therefore within walking distance for residents.

It is the intent of this plan that appropriate housing support facilities shall be encouraged, and access to such facilities provided in all residential areas. These facilities which provide goods, services, education and relaxation in close proximity to the Mauka Area

residents would be designed and integrated within or adjacent to housing areas to help form cohesive and desirable neighborhoods.

PUBLIC FACILITIES PLAN

Chapter 206E, HRS, mandates that "...Public facilities within the district shall be planned, located, and developed so as to support the redevelopment policies for the district..." Therefore, in the redevelopment of the Mauka Area, the full array of public facilities needed to support development will be provided.

"Public facilities" includes streets, utility and service corridors, and utility lines sufficient to adequately service development improvements. It also includes sites for schools, parks, parking garages, sidewalks, pedestrianways, bikeways, and other community services normally provided by the public sector.

This section of the plan addresses public facilities and services relating to health, safety, education, and welfare of the community population. Information concerning public facilities is also discussed in the sections dealing with Transportation, Utilities, Housing and Housing Support Facilities, Open Space and Recreation, and Social and Safety.

Public facilities addressed in this section include schools, day care centers, health care facilities, police and fire protection, and other services.

Public Facilities Proposals

Generally, the provision of public facilities is responsive to increases in residential population. Furthermore, the location of new public facilities should be based upon adequate access for residents.

It is a policy of this plan that public facilities be located on sites which will be convenient for the people they are intended to serve and be designed to meet the needs of the population. Whenever compatible, different types of public facilities will be located in such a way as to enhance the convenience to the public and to reduce the costs. For example, community centers, day care centers, and recreation and elderly facilities can be combined with parking facilities. Similarly, services such as postal, social, clinical, and governmental functions may be combined.

The need for public facilities is based upon population/facility requirement standards. For additional details, refer to the Transportation, Utilities, Housing and Housing Support Facilities and Open Space and Recreation sections of the plan.

As an example, this plan provides for the future development of day care centers in conjunction with the development of residential, commercial and industrial activities in the Mauka Area. Such day care centers will be developed by both the public and private sectors. The day care centers will be primarily located in residential emphasis areas. Within mixed-use developments they will be located primarily on the deck level, where open space and recreation for children are provided. The day care centers may provide services to families living on or near the mixed-use developments.

New schools will open as increases in the school age population increases to a level which warrants additional school facilities. Current school facilities in proximity to the Mauka Area are adequate to accommodate some increase in the school age population.

For the longer range, school age population estimates indicate that two elementary schools will be necessary. This number is based on the number of elementary age students who are expected to attend public school. Based on the anticipated number of housing units in the Mauka Area, a total residential population of 47,500 would result. Of this total, approximately 2,200 persons would be of elementary school age.

The first school may be located in the vicinity of the present Pohukaina Elementary School. As the residential population in the Mauka Area increases, new elementary schools shall be provided as the need arises. The schools shall be integrated with a public park proposed in the same area. One of the schools may be located and could share the grounds of the present Kapiolani Community College site should there be a reduction in the activities of the college. Kapiolani Community College which teaches trades would be needed and is beneficial within the Mauka Area for the present and future business and industrial activities. Every effort should be made to retain the kind of activities offered by the Kapiolani Community College.

Additional police and fire protection services for the projected population are not expected to be required. Additional major health care services such as hospitals and clinics are also not expected to be required. But minor health facilities such as doctors and dental offices are allowed in proximity to residents.

Public Facilities Plan Provisions

In order to achieve the objectives of the public facilities section, adequate public facilities in the Mauka Area will be provided by the following means:

1. Public construction of new public facilities especially in conjunction with the phasing of the District-Wide Improvement Program;

2. Improvement or modification of existing public facilities to meet increased needs;

3. Private development and dedication of public facilities in response to publicly provided incentives which may include development allowances for extra height or floor area; and

4. Assessment of the private sector for the costs of public facilities which benefit private sector developments, such as recreational facilities on the roof or within public parking garages.

All agencies of the State or City shall consult with the Authority at the project planning stage prior to the construction, renovation, or improvement of any public facility within the Mauka Area.

Maps and other exhibits in this plan showing existing and future public facilities provide public notice of the approximate locations of such public facilities within the Mauka Area. These maps and exhibits shall serve as a guide for the Authority and all agencies of the City and State in the development of future public facilities within the Mauka Area.

UTILITIES PLAN

Public utility systems provide the basic services needed for the growth and functioning of a community. Public utility systems include water, sewerage, drainage, gas, electric, telephone and related systems and their attendant facilities.

In Chapter 206E, HRS, the Legislature recognizes that "...The district, if not redeveloped or renewed, has the potential to become a blighted and deteriorated area."

The Legislature therefore ordered the redevelopment of the District and stated that "Public facilities within the district shall be planned, located and developed so as to support the redevelopment policies for the district."

In order to carry out the policies of Chapter 206E, the Authority, through its Phase I inventory of existing conditions, found that most of the utility systems within the Mauka Area were installed prior to World War II, when the Mauka Area was basically a residential community with a sprinkling of commercial and industrial activities. It was also found that most of the lines in the utility systems were small and did not conform to the minimum line size standards of the City and County of Honolulu.

During Phase II, the existing systems were analyzed to determine their capacity to accommodate potential development that could occur in the Mauka Area under existing and proposed public policies. It was found that the existing utility systems were inadequate to accommodate the full potential of development.

Therefore, the Authority, through its Phase III and Phase IV activities, re-evaluated and defined improvements to the existing systems needed to accommodate the land uses and density proposed in this plan. The areas of constraint were identified and relief lines were proposed to upgrade the respective utility systems to accommodate the proposed land uses.

Utilities Proposals

This plan proposes to upgrade all existing utility systems to meet anticipated demands. The following policies shall guide the development and improvement of all utility systems.

Utility systems which serve the Mauka Area also serve broader regional systems. Therefore, the overall planning, design, construction, and functioning of the Mauka Area's utility systems shall be coordinated within the context of the respective regional systems and the appropriate City, State, Federal or private agency.

The planning of utilities is directly affected by existing physical conditions and constraints as well as user demand. Conversely, the availability and capacities of utilities directly affect the pace and direction of new development. The utility systems in the Mauka Area shall be sized to meet the demands of proposed land use activities, and the demands of every parcel developed to

its maximum potential. Prior to the initiation of any new development, the utilities expected to serve it shall have adequate capacities to meet the needs and demands to be generated and shall be coordinated with the District-Wide Improvement Program of this plan.

Coordinated construction ensures the development of functional public utility and facility systems in a shorter amount of time than that resulting from isolated or piecemeal improvements by individual developer and public agencies.

Therefore, all utility improvements should, to the extent practicable, be coordinated with roadway improvements.

Water, sewerage and drainage systems are maintained and operated by public agencies while telephone, electric and gas systems are operated and maintained by private utility companies. Water, sewerage, drainage, electrical, telephone and communication system improvements shall be implemented either by capital improvement programs or improvement districts. The expanded public rights-of-ways provide sufficient space for all the utility systems. All utilities shall, to the extent practicable, be located underground and shall be designed in accordance with the standards of the City and County of Honolulu and the appropriate utility company as well as established engineering principles. In evaluating the practicability of underground utilities, all major streets or local streets shall have their utilities undergrounded. Utilities on the remaining streets will be undergrounded when determined to be appropriate by the Authority.

Figures 23 to 26, relating to proposed water, sewerage, drainage, and electrical, telephone and communication system improvements are based on general preliminary engineering analyses. The improvements and routes shown may be modified or refined as detailed engineering analyses and designs are performed. Until such detailed engineering designs are completed, infrastructure improvements shall generally follow the guidelines set forth herein.

Water Systems

The Mauka Area's water system is part of the Honolulu Board of Water Supply's (BWS) Honolulu Area Low Service System extending from Red Hill to Makapuu Point. This system's primary water sources are Punanani Wells, Kalauao Wells, Halawa Shaft, and Kaamilo Wells located in the

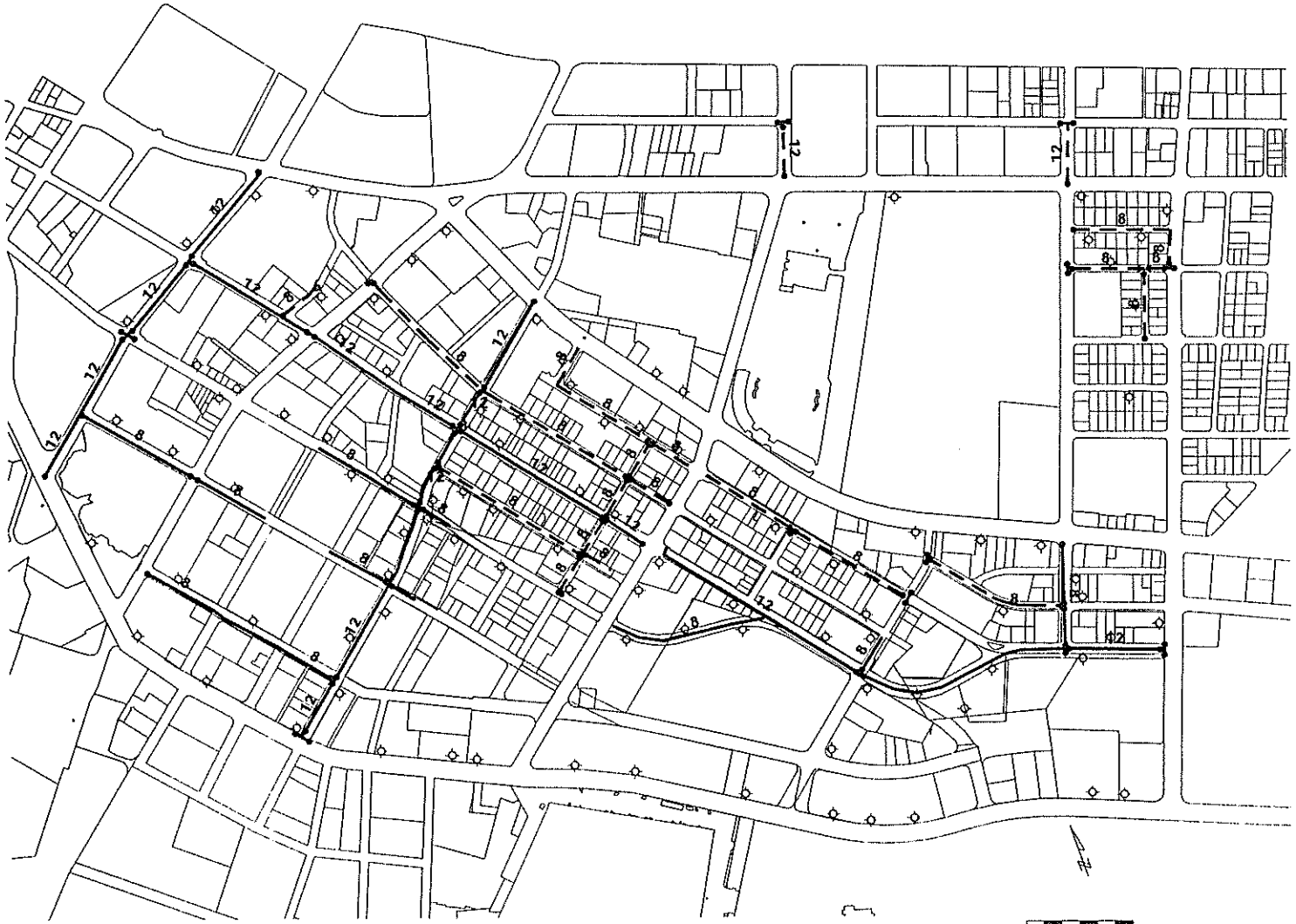


Figure 23

MAUKA AREA PLAN

Water System

- Mauka Area Boundary
- New Water Main (Size) Major Roadway
- New Water Main (Size) Minor Roadway
- New Fire Hydrant
- Gate Valve

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Pearl Harbor District, and Kalihi Shaft, Kalihi Station, Beretania Station, and Wilder Wells Kaimuki Station located in the Honolulu District. Water to the Mauka Area comes primarily from sources located west of the area and is transmitted from pump stations and storage reservoirs, through transmission lines, and distributed through a network of mains and service laterals.

Many existing water lines in the Mauka Area predate the 1930s, especially those in the central Mauka Area. About half of these lines are 6" or less in size, significantly less than the BWS's current standard of 8" or larger for distribution mains. By requiring a water supply and distribution based on BWS standards, it will be possible for the Mauka Area to be developed to its maximum potential with adequate domestic water and fire protection capacities. To meet water demands expected from proposed land use activities, the water system shall be upgraded in accordance with the standards of the BWS and the guidelines set forth in the Water System Plan Map (Figure 23).

Approximately 27,000 feet of new water lines will be needed to meet expected consumption and fire protection demands. Development of these lines include improvements such as new fire hydrants, water valves, manholes, and other appurtenances.

Furthermore, additional off-site facilities will need to be developed because present BWS off-site facilities are operating at near capacity. Off-site facilities that need to be developed include new water sources and appurtenances in Punaluu, Kahana Valley or other Windward areas, new transmission mains to convey water from the new wells to the Honolulu district, and a new 4.0 mg. reservoir on Waahila Ridge.

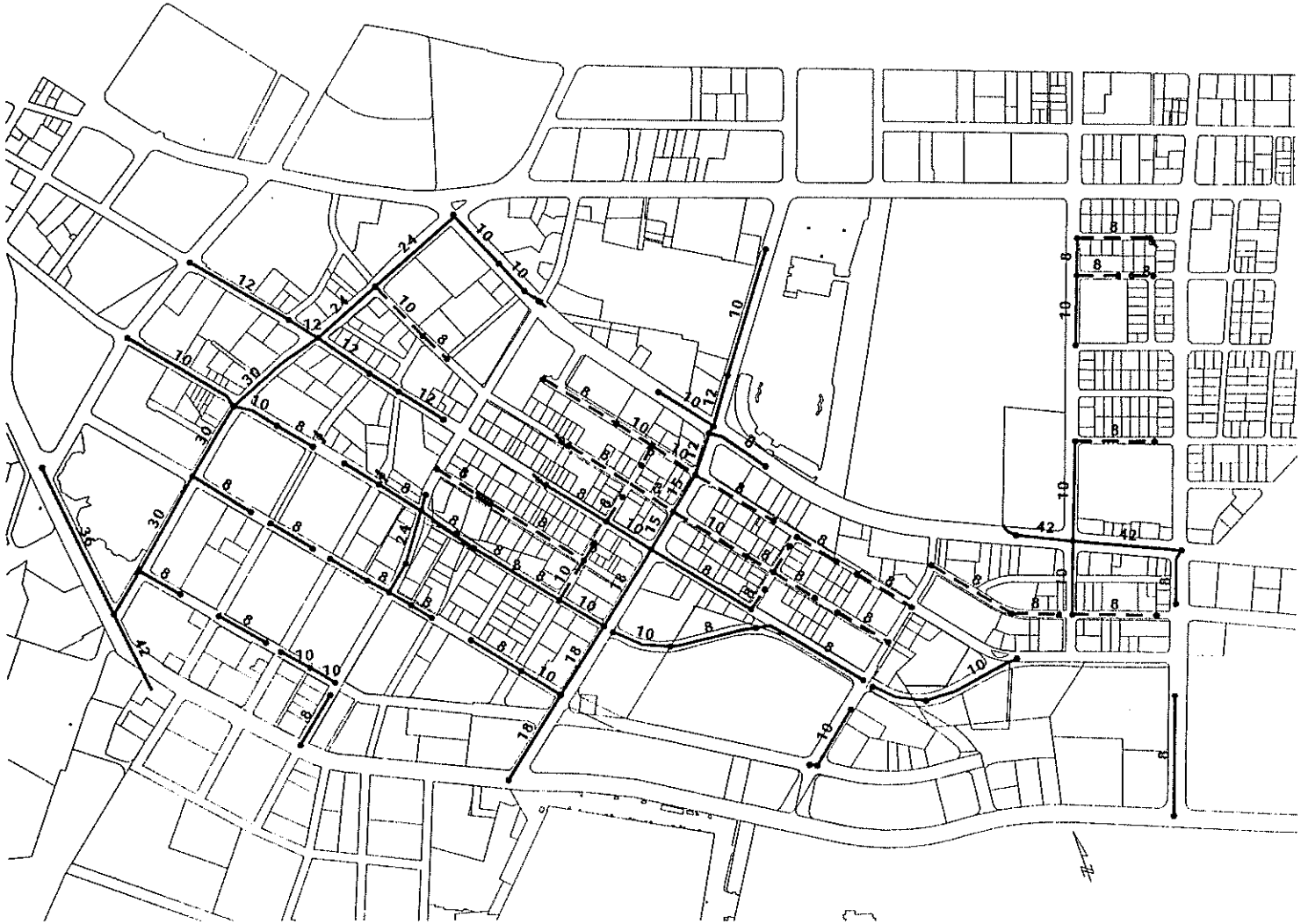
Sewerage System

The Mauka Area's sewerage system is part of a regional system extending from Kuliouou to Nuuanu. Sewage from this system flows to the Ala Moana Sewage Pumping Station and then to the Sand Island facility for treatment and disposal. At present, constraints outside the Mauka Area affect the capacity of sewer lines within. Because these constraints affect other areas of the city they should be resolved by concerted public and private sector actions.

Most of the major trunk lines in the Mauka Area are relatively new. However, many of the other existing sewer lines are more than 50 years old. Most existing "local"

MAUKA AREA PLAN

Sewerage System



- Mauka Area Boundary
- New Sewer Pipe (Size) Major Roadway
- New Sewer Pipe (Size) Minor Roadway
- Sewer Manhole at Change in Pipe Size
- Cut and Plug Existing Sewer

0 300 600 feet

Figure 24

April 1999

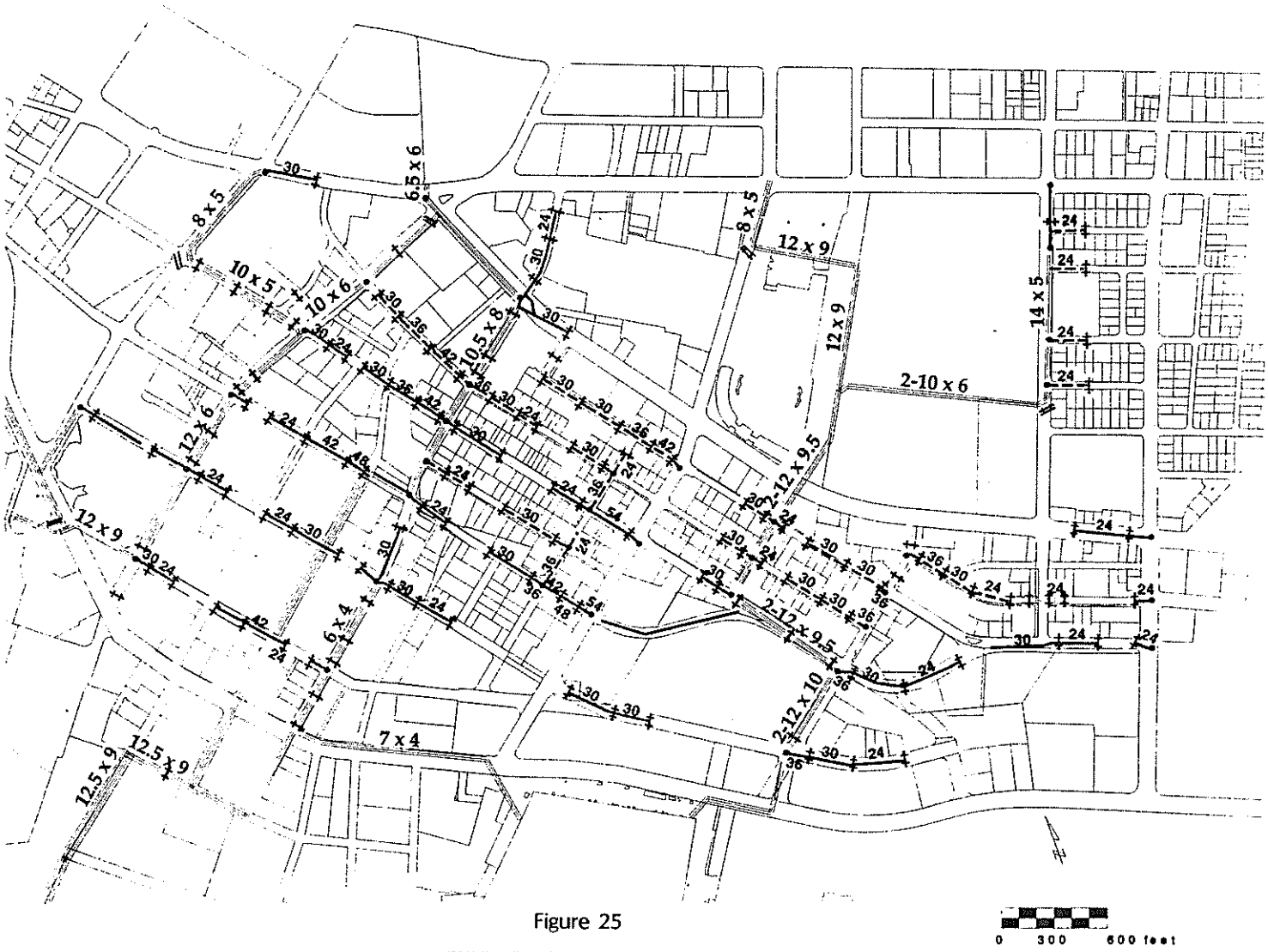


Figure 25

MAUKA AREA PLAN

Drainage System

- Mauka Area Boundary
- New Drain Pipe (Size) Major Roadway
- New Drain Pipe (Size) Minor Roadway
- New Drainage Box Culvert (Size)
- ‡ New Catch Basins With Drain Lines
- // Cut and Plug Existing Sewer

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branch lines are 6" and do not meet the City and County's current minimum standard of 8". To assure development of the Mauka Area to its full potential, based on the planned land uses set forth in this plan, the area's sewerage system shall be upgraded in accordance with the standards of the City and County and the guidelines set forth in the Sewerage System Plan Map (Figure 24).

Drainge System

The Mauka Area's drainage system consists of inlets and lines connected to major trunk lines passing through and serving the area and tributary areas mauka of the Kakaako District. Storm runoff and drainage is by gravity, generally in the mauka-to-makai direction. Most of the major drainlines are located within the major mauka-makai thoroughfares.

The Mauka Area's existing drainage facilities are inadequate to carry storm runoff to the sea as evidenced by the frequent storm floodings within the area. To correct this problem, additional major drains are needed along mauka-makai streets. The needed drainage improvements include new reinforced concrete pipe and box culverts, manholes, catch basins and/or drainage inlets in various parts of the Mauka Area. An effective drainage system, capable of disposing natural and man-made runoff generated by existing and new developments shall be provided in the area. Toward this end, the Mauka Area's drainage system shall be upgraded in accordance with the standards of the City and County and the guidelines set forth in the Drainage System Plan Map (Figure 25).

Gas System

The primary source of gas for the Honolulu area is Gasco, Inc's. synthetic natural gas manufacturing plant at Barbers Point. Through a network of distribution lines, the gas is transmitted throughout the Mauka Area to individual parcels by service laterals.

A gas line layout is not proposed because such a system would be dependent upon the potential load, number of customers, cost of installation, etc. Customer rates are covered by Rule No. 13 of the Tariff approved by the State Public Utilities Commission.

Gasco, Inc. is responsible for replacement of undersized or deteriorated lines as necessary. The

present gas distribution system has been determined by Gasco to be able to meet future demands provided some modifications are performed. Gasco will decide whether to construct service mains to new customers or provide them with containerized gas.

Electrical System

Electricity consumed in the Mauka Area is generated at the Hawaiian Electric Company's (HECO) Honolulu Power Plant at Nimitz Highway and Bishop Street in Honolulu proper. HECO's plants at Waiau or Kahe can also serve the Mauka Area if needed.

The Mauka Area contains three HECO substations. Based on the proposed density of the area, HECO does not anticipate the necessity to install additional substations in the Mauka Area. It is possible to renovate existing substations to accommodate additional transformers. HECO's policy is to increase a system's service capacity only when the need arises or when future loads can be anticipated with reasonable certainty. The electrical system proposed for the Mauka Area requires a minimum of 60,000 additional feet of underground ducts to be located to the extent possible, within the public rights-of-way (Figure 26).

Costs for modifications to the existing substations and costs associated with adding and extending lines from the substation due to increase in loads are to be paid by HECO. The existing overhead and underground facilities that are in conflict with the plan will be removed or relocated to conform to the new layout. New construction cost for conduits and other appurtenances within the public rights-of-way shall be shared depending on the project's funding. The funding shall be shared between the government, HECO, and the property owner or developer.

The property owner or developer will be responsible for HECO's service charges to individual lots.

Telephone System

Hawaiian Telephone Company (HTCO) owns and operates the Mauka Area's telephone system. Existing trunklines are routed in underground raceways and overhead lines.

A minimum of 43,000 feet of underground conduits need to be installed. These will be constructed within the

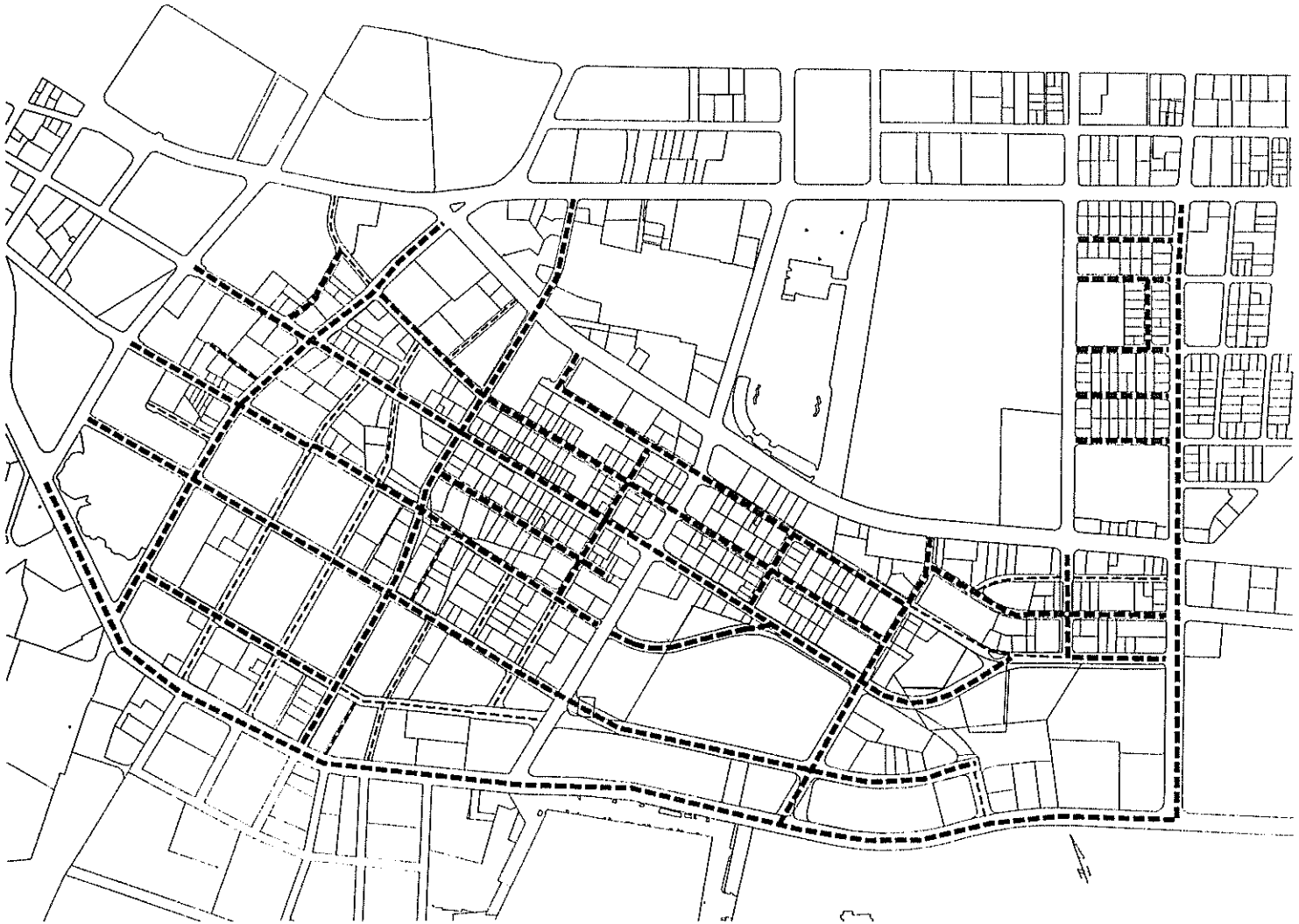

Figure 26

0 300 600 feet

MAUKA AREA PLAN

Electrical, Telephone, & Street Lighting Systems

Undergrounding Planned

Undergrounding Subject to Future Consideration

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public rights-of-way (Figure 26). Cost for additional lines and facilities to the area will be shared by HTCO, the public sector, and the property owner or developer. Individual HTCO service costs to the customer or developer will be borne by HTCO and the customer.

Community Antenna Television System (CATV)

A minimum of 43,000 feet of conduits are required to service the projected increase in population within the Mauka Area. Cost for additional transmission lines to the area required for normal growth is the responsibility of the CATV's contractor, Oceanic Cablevision.

Service cost of buildings or projects is the responsibility of Oceanic Cablevision. Final connection service to the system within a project will be the responsibility of the owner, tenant, or developer.

The proposed Community Antenna Television System (CATV) for the Mauka Area shall, to the extent practicable, be installed in underground raceways.

The raceways shall be constructed within the public rights-of-way.

Street Lighting System

Street lights are located throughout the Mauka Area along public roadways. The street lighting system is owned and maintained by the City and County of Honolulu with existing lines routed in underground raceways and overhead on wood poles. In order to make the Mauka Area both safe and attractive, street lights shall be installed as a part of all new and improved roadways (Figure 26). These facilities shall be constructed within the public rights-of-way.

Traffic Signal System

Traffic signalizations are presently located along the existing major roadways. These facilities are owned, operated and maintained by the City and County of Honolulu or State of Hawaii. Signal systems shall be added at the intersections of new major roadways as required by improvements and as approved by the appropriate City and State agencies.

HISTORIC AND CULTURAL RESOURCES PLAN

The redevelopment of the Mauka Area is guided by development policies found in Chapter 206E, HRS. The Legislature has declared that sites of historical or cultural significance within the Mauka Area shall be preserved. Therefore, the preservation of such resources shall be an integral part of this plan.

Most of what we know today as Hawaii's urban form dates from the Post World War II era when Hawaii's rate of growth and development rapidly increased. For this reason man-made resources which predate this period are reminders of Hawaii's past.

Hawaii is unique in that the historical entry point of its various cultures is fairly well-defined. One can trace the establishment, then flourishing of the cultures through their diverse art forms and architecture. The end product of this evolutionary process is an integrated culture founded upon the blending and merging of its diverse backgrounds. The preservation of significant historic and cultural sites will provide us with concrete evidence of our cultural past and an appreciation of the origin of the cultures that have contributed to the development and uniqueness of Hawaii today.

Historic and Cultural Resources Proposals

The Mauka Area is one of the early urbanized areas in Honolulu and, fortunately, still retains many sites of significance (Figure 27). These sites should be preserved to provide present and future generations with an understanding of Hawaii's history and uniqueness.

The preservation, restoration and use of historic sites are very important from an economic standpoint. The retention of historic and cultural sites promotes the uniqueness of Hawaii's history. Such sites are important visitor attractions and, thus, an asset to the community. Historic and unique buildings in the Mauka Area which are renovated and made economically productive can contribute to the continuing distinctiveness and uniqueness of the Mauka Area, and serve as attractions to residents and visitors in Honolulu.

The process of identifying sites recommended for preservation, protection, restoration, rehabilitation, and/or reconstruction involved the following steps.

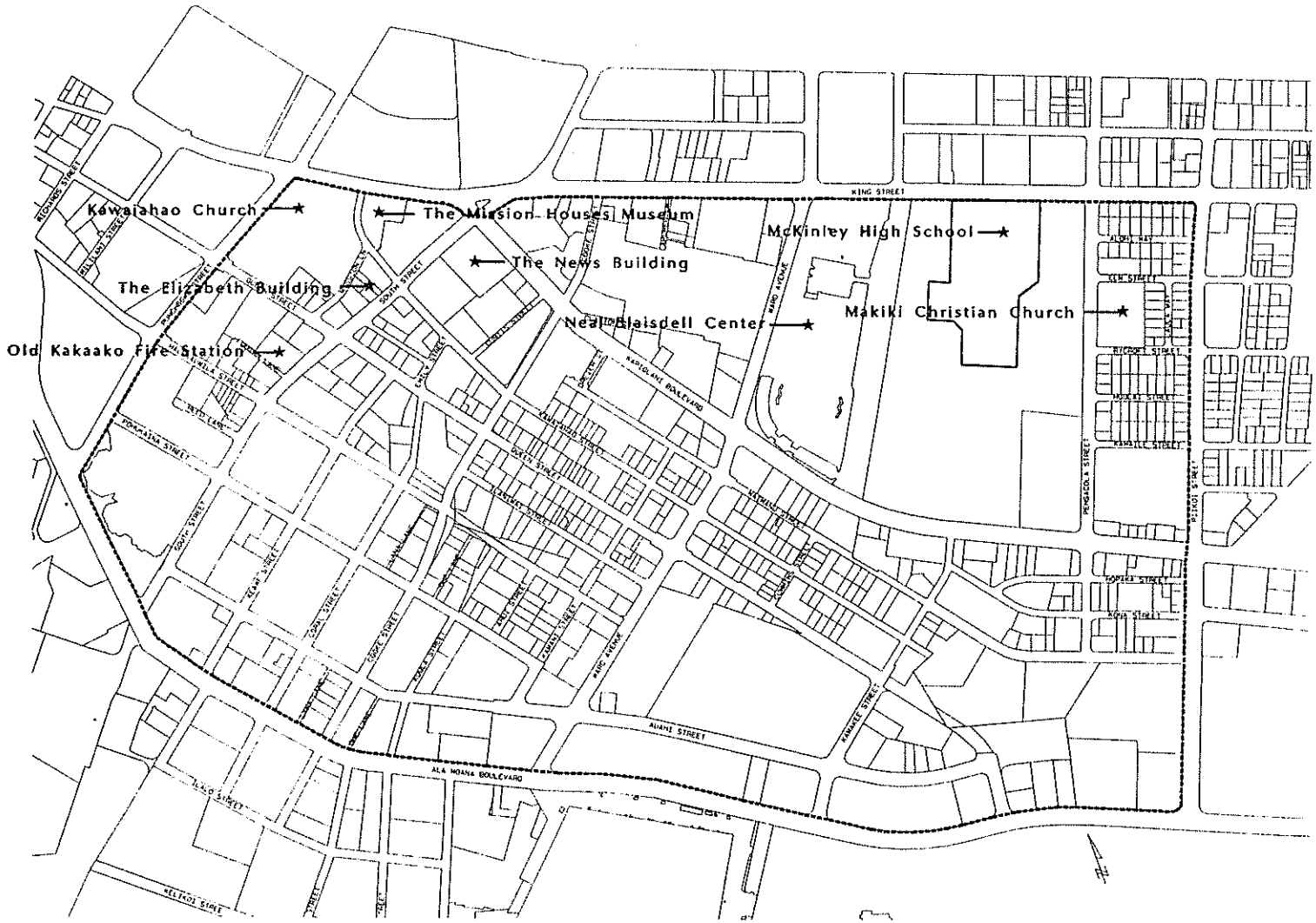

Figure 27

MAUKA AREA PLAN

Historic/ Cultural Sites

Mauka Area Boundary

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An inventory of the Mauka Area's historic sites and buildings as well as culturally significant facilities, settings and locations was performed. In evaluating sites and selecting those meriting protection, criteria used by the Hawaii Historic Places Review Board were considered. The Mauka Area's historic and cultural resources were then reviewed as to their relationship and significance to the Mauka Area's past. In addition to the Hawaii Historic Places Review Board's criteria, these factors were deemed important:

1. Placement within the State or National Historic Register does not assure preservation of a particular site or structure.

2. Buying sites solely for preservation is prohibitively expensive.

3. The Community's interest is best served by protecting sites and buildings of historic and Cultural significance that can be placed in productive use.

The following definitions will facilitate understanding of the actions recommended in this plan.

PRESERVATION -- keeping a particular property in its present condition. Such property may already be in a restored or rehabilitated condition.

PROTECTION -- undertaking actions or applying measures which will prevent the property from deterioration or loss or which will keep it from being destroyed or abused.

RECONSTRUCTION -- reproducing by new construction of a building, structure, object or parts thereof as it originally appeared.

REHABILITATION -- returning a property to a useful state, thus allowing it to be used while preserving those portions or features considered historically, architecturally, and/or culturally significant.

RESTORATION -- recovering accurately the authentic form and details of a property or a structure and its setting, usually by renovating a later work, or replacing missing earlier work.

Historic Resources

The following are sites selected for protection and the action recommended for each site:

HISTORIC SITE	PROPOSED ACTION
Kawaiahao Church and Grounds	Preservation
Mission Houses	Preservation
Old Kakaako Fire Station	Rehabilitation
McKinley High School	Rehabilitation
News Building	Preservation
Elizabeth Building	Restoration
Makiki Christian Church	Preservation

Cultural Resources

The Neal Blaisdell Center Complex and grounds (including the Victoria Ward Coconut Grove) should be protected due to its cultural and aesthetic values. Kewalo Basin harbor, which is located in the Makai Area, influenced the Mauka Area's early development due to the fishing and related activities that existed and continue there. A compatible and mutually supportive relationship between contemporary water-related activities at the harbor and developments within adjacent areas shall be promoted and pursued.

Valuable cultural resources such as the Kamaka Ukulele Factory should remain in the Mauka Area. Such culture-enhancing facilities are valuable. If their displacement is unavoidable, they should be relocated in the Mauka Area to areas that are community focal points. Maximum exposure of such resources to residents and visitors benefits the public and the "resource" as well.

Other resources within the area considered to be of cultural and historic value may not be on the plan's preservation list. In evaluating sites, major emphasis was placed on a site's ability to be economically self

sustaining and thus contribute to the renewed community. The Honolulu Brewing and Malting Company property is an example. Although the building is on the State and National Register, it is structurally unsound. To give the building economical and social utilitization would require it to be torn down and reassembled, a prohibitively expensive venture. Therefore, this property is not included in the aforementioned historic sites list. If at a later date a viable alternative for its reuse is offered, the Authority would reconsider the site for inclusion under the plan.

With respect to the historic and cultural sites and buildings on the Authority's list which are privately owned, additional assistance to the owners shall be considered. The Authority shall review and consider the possibility of providing property tax relief or other tax incentives, governmental grants-in-aid, and other financial and technical assistance to such owners. The Authority may propose amendments to existing laws and rules to implement these concerns.

Rules shall be adopted to establish procedure by which other sites of historical and cultural significance within the Mauka Area may be identified and added to the Authority's preservation list.

SOCIAL AND SAFETY PLAN

Chapter 206E, HRS, directs the Authority to create in the Mauka Area a community which serves the highest needs and aspirations of Hawaii's people. Such a community must provide all of the basic needs of its residents, employees, and visitors in a safe and socially desirable environment.

Social Proposals

To ensure satisfaction of social needs of the Mauka Area residents, employees and visitors, it is a policy of this plan that development be designed to facilitate the safe as well as enriching social interaction of people as they conduct their business and other activities within the community. Toward this end, this plan requires well designed, sensitive, attractive and accessible open space and recreational resources, pedestrian connections to activity centers, and public facilities that encourage the positive interaction of individuals and groups.

Resident social needs will largely be met by the provision of housing support facilities. To ensure effectiveness in serving the needs of residents, these facilities should be efficiently operated, financially self sufficient, and accessible to all residents. In addition, their operation should promote the well being of residents by ensuring that:

1. fees for their services are affordable;

2. priority be given to serving the residents and employees within the Mauka Area;

3. services are competently administered; and

4. needed public funding assistance is secured for services to low-income and needy elderly households.

Furthermore, efforts shall be made to provide appropriate and progressive child care and gerontology programs. To the extent possible, joint elderly-child care facilities shall be developed so that each group may benefit from its relationship with the other.

Public Safety Proposals

The concept of mixed use itself, as used in this plan, will help promote a safe and secure community. In a traditionally developed, single-use urban area like downtown Honolulu, there are periods of time in each 24-hour cycle during which there is very little human activity and interaction. This inactivity results in deserted streets which may be conducive to crime and vandalism. A mixed-use community providing a variety of business and residential activities, however, can be a place of continuing human activity thus decreasing the inactivity periods and acting as a possible deterrent to crime and vandalism.

The mixed-use community provided for by this plan represents a significant departure from the project-by-project, single-use concept of the Post World War II era. While the mixed-use concept is not new, it is to be implemented on a much larger scale by this plan, encompassing the entire Mauka Area rather than just a few businesses with owners "living above the store".

In addition, this plan provides for activities to take place on upper-level platforms, with vehicular traffic at the ground level. This will enhance the safety of people engaged in activities such as shopping, playing and walking from place to place. Landscaped platforms

would be connected to each other by walkways over streets, enabling a person to work, shop and live without having to mix with street traffic.

The public sector is encouraged to exercise its police and fiscal powers to provide a safe and secure living and working environment. Areas of special concern include, among others, traffic safety and control measures, police and fire protection, acquisition and installation of private security systems or services, ensuring safe and pleasant pedestrian access to services, places of employment and recreation areas, and providing information on personal safety within developments.

Building interiors, grounds, landscaping, on-site parking and exterior common areas should be well-lighted and designed to minimize "pockets" in which intruders may cause harm to others. Well lighted views of open space areas, residential developments and parks from nearby activity areas and publicways should help to reduce crime and assist in the watchful care of children and the elderly.

Safety shall be an element of consideration in all urban design review of Planned Developments. Emphasis should be placed on assuring the installation of adequate lighting, installation of security equipment or the hiring of security personnel, and the isolation of hazardous areas and facilities from access by children or the handicapped. Landowners and residents of the Mauka Area are encouraged to form informal neighborhood watches and other associations. This could be accomplished either on a building-by-building basis with either the owners or the lessees forming such groups or on a broader scale through neighborhood boards or community associations. Organizations of this type will not only help make the Mauka Area a secure community but also foster a sense of neighborhood or community.

It is also a policy of this plan that the health and general well-being of the Mauka Area community shall be maintained by the creation of a safe and secure area. Public and private efforts, jointly and separately, shall be directed to this end.

Appropriate rules shall be established to carry out these safety considerations.

RELOCATION PLAN

The extent of the Mauka Area redevelopment called for by Chapter 206E, HRS, will require construction of additional public facilities and utilities as well as the redevelopment of land uses. Therefore, a certain degree of relocation, whether temporary or permanent, is necessary to facilitate such renewal.

Relocation is defined as a move, resulting from a publicly caused displacement, and re-establishment of the displaced household or business at a new location. Relocation can be a direct or indirect consequence of displacement. Displacement is any direct or indirect action, public or private, which forces households or businesses to move as a result of the acquisition, or imminence of acquisition, of real property. It may be either temporary or permanent.

In temporary displacement, the households or businesses may return to the neighborhood or the Mauka Area after revitalization is completed. Households or businesses permanently displaced, although desiring to do so, may not return to their original sites.

Displacement results from two major causes: (1) public actions such as the construction of public facilities such as streets, housing, parks and parking garages and other infrastructure systems; and (2) private actions, independently made, or induced by public planning decisions. Privately caused displacements may result from private demolition and new construction, private rehabilitation projects, and evictions due to rising market prices and rents.

Residents and businesses facing relocation may not want to move not only because of the attendant inconveniences, but also because current relocation programs often do not adequately reduce the adverse physical and social impacts and loss of revenues that accompany it.

Relocation Proposals

As used in this plan, relocation refers primarily to displacement resulting from government-initiated projects. Households and businesses displaced by private sector actions, however, shall receive certain public assistance services short of monetary payments.

It is the intent of the Authority to provide meaningful relocation assistance for all persons and businesses displaced due to public action. Towards this end, the Authority shall be guided by the following principles:

a. To phase redevelopment to minimize disruptions.

b. To ensure that families and businesses are, to the extent practicable, properly relocated before permitting their displacement by new development, redevelopment, or neighborhood rehabilitation.

c. To return as many persons displaced by government actions back to the Mauka Area.

d. To provide opportunities for persons displaced by government action to avoid major financial loss.

e. To minimize or ameliorate any serious negative impacts of displacees, such as loss of employment or business, imminent loss of shelter, and monetary losses.

f. To provide counseling, information and referral services to displacees affected by private sector actions, induced or stimulated by governmental planning decisions.

Relocation assistance includes providing financial benefits and relocation services to households and businesses displaced as a result of public acquisition of real property for public improvement or purposes.

Toward this end, it is proposed that the payments provided to displaced persons reflect amounts necessary to meet reasonable relocation expenditures.

It is further proposed that displaced businesses be provided relocation payments that adequately reflect the cost of displacement. The proposed assistance to displaced businesses would, for example, help pay for the higher rents or purchase prices at new locations and would be in keeping with the intent of public policy to provide an equitable treatment of displacees.

Equitable relocation assistance payments to displaced persons, facilities, and businesses shall be established. Such assistance may include, but is not limited to, payments to displacees for moving costs, a dislocation allowance, replacement payments to owner-occupants who purchase, rent subsidy to owner-occupants, replacement payments to tenant-occupants who purchase or rent, and replacement housing subsidy for tenants.

Every effort shall be made to provide displacees of households and businesses resulting from public acquisition with comparable replacement facilities at reasonable rates. Procedures shall be instituted to identify potential displacees at an early stage of redevelopment in the Mauka Area.

The Authority shall seek to establish temporary relocation facilities for displaced businesses until they can be re-established in their prior or substitute location within the Mauka Area. The presently under utilized State property in the area of Pier 2 across Ala Moana Boulevard from the Mauka Area would provide an ideal relocation site. This improved property contains large unoccupied warehouse structures that appear adaptable for industrial use. A portion of this property would serve as a convenient temporary relocation site without necessitating the acquisition of additional land.

In view of the complexity, scope, and time period involved in the redevelopment of the Mauka Area, the Authority shall direct and oversee all relocation services within the Mauka Area. Among the functions to be performed by the Authority's relocation assistance office are the following:

* Assistance to State and County displacing agencies in the development and implementation of relocation assistance programs for specific public improvement projects.

* Advisory services to displacees of government actions, such as information on Federal and State programs, loans, and other benefits; handling appeals; personal contact with each displaced person; and assistance in finding replacement sites and in actual relocation.

* Coordination of relocation activities with other project activities and other planned or proposed City and State agency actions within the community or nearby areas.

* Advisory services to displacees of private sector actions, or to persons or business concerns occupying property adjacent to any property acquired for public improvement and are caused substantial economic injury because of the public improvement.

The Authority shall establish rules to implement these policies.

DISTRICT-WIDE IMPROVEMENT PROGRAM AND PHASING

In implementing the plan for the Mauka Area, public and private capital resources will be committed and expended. The Legislature granted the Authority a wide range of powers, including the power to prepare plans, specifications and designs; acquire real and personal property, construct, reconstruct, rehabilitate, or repair any project; own, manage, or convey projects; and contract for and accept gifts or grants from any public agency or other sources.

Costs include expenses to carry out all undertakings which the Authority deems reasonable and necessary for the development of a project. These include costs for studies, surveys, plans and specifications; architectural, engineering or other related services; acquisition of property; site preparation and development; construction, reconstruction and rehabilitation; administration and operations; financing; and relocation.

During the preparation of twelve plan variations and the process of narrowing them down to one final plan, total capital costs and investment required for district-wide redevelopment were estimated and evaluated. These estimates included costs directly attributable to land and land improvements, but not costs for business inventory, equipment, furniture and operational expenses. Costs for relocating households and business establishments were estimated based on the Relocation Plan section herein.

Costs were categorized as: Private and Public. Private costs include pro rata share for transportation facilities, utilities, urban design, public facilities and housing support facilities. Public costs include pro rata share for transportation facilities and utilities, public housing and relocation assistance (See Figure 28).

The allocation of costs is based on a preliminary assignment of benefits accruing to properties in the Mauka Area. As an Improvement District Program is developed for each phase, these costs may vary.

The pace of the Mauka Area's revitalization and economic growth hinges upon the availability of funds for the implementation of public and private development activities. The availability of funds is affected by various factors which include economic conditions such as inflation and interest rates, feasibility and risk associated with project types, demand for and supply of long-term capital, and the prevailing tendencies of the

FIGURE 28: ESTIMATED DEVELOPMENT COSTS
ALLOCATED TO PRIVATE
AND PUBLIC SECTORS
(by million dollars)

ITEM	TOTAL	PRIVATE SHARE	GOVERNMENT SHARE
Transportation			
Roadway	50.15	36.34	13.81
Elevated Pedestrianways	27.50	23.50	4.00
UTILITY SYSTEMS			
Sewerage	8.36	6.28	2.08
Drainage	64.16	30.40	33.76
Water	37.02	14.84	22.18
Electrical/ Communication	15.88	5.28	10.60[1]
URBAN DESIGN			
Landscaping and Streetfurniture	1.12	1.12	-
PUBLIC FACILITIES			
Parks	50.72	50.72	-
Parking Garages	157.79	157.79	-
HOUSING			
Public (Rental)	240.13	-	240.13
HOUSING SUPPORT FACILITIES			
Day Care Centers	1.29	1.30	-
Community Centers	1.94	1.93	-
RELOCATION			
Financial Assistance	2.25	-	2.25
TOTAL COSTS	658.31	329.50	328.81[1]

1 Includes $5.49 million allocated as utility company share.
December 1981 costs

money market. Generally, there is no single source of funds readily available to finance the development and construction of improvements identified in this plan. Public sources, such as revenue bonds, grants, low interest loans and the like, are limited to the extent of participation in the project and governmental debt limit ceilings. Federal, State and County participation in the financing of public improvements will be based largely on the type of public facility and the availability of funds among the various levels of government for specific projects at the time financing assistance is requested. Private sources, on the other hand, are generally reluctant to undertake the revitalization of a distressed area without some assurance of active public sector assistance.

The financing strategy is based on the integration of public and private financial resources, coupled with development and investment incentives. The specific means of obtaining such funding for plan implementation will be identified in the capital improvement and operating budgets of the Authority that are submitted to the Legislature.

The revitalization of the Mauka Area will involve both private and public sector actions in the implementation of the plan over the next 25 to 30 years. Due to the Mauka Area's size and the many existing viable activities which will continue to operate in response to market conditions throughout this period of improvement, redevelopment will likely occur in different areas. However, individual development activity is likely to follow in those sections where infrastructure has been improved.

The Legislature, in creating the Authority, recognized the limits of existing laws and public and private mechanisms to facilitate timely and orderly redevelopment. Responding to that need, this plan sets forth methods by which private development initiative and performance of the various public improvement activities of government will be coordinated and integrated in a rational progression and phasing of development units over time.

As used in this plan, phasing means to plan and carry out systematically a sequence of development units of public facility and utility improvements. Each development unit may involve one or more increments of a

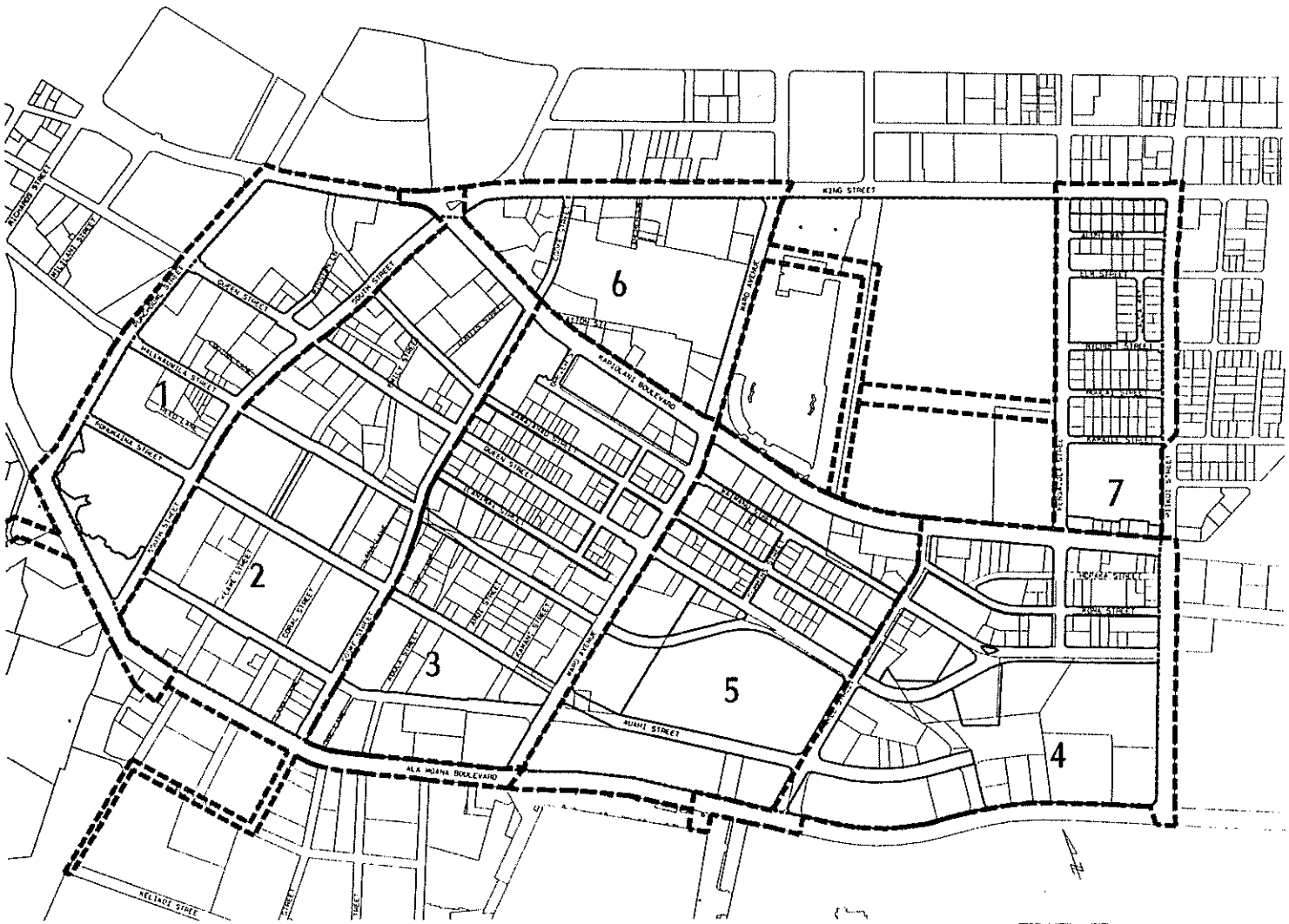

Figure 29

MAUKA AREA PLAN

Development Units

Mauka Area Boundary

NOTE: Numbers on map indicate the general development units

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public facility development. A development increment may involve portions or parts of various infrastructure improvements. An increment would be determined according to the design, engineering and functional aspects of the public facility, as well as the availability of funds.

A development increment may involve portions or parts of various public facility improvements. For example, a development increment may include the construction of a roadway segment, including the pavement, curbs, sidewalks, and utilities which go into the right-of-way. A development increment may also include the construction of an independent improvement such as an elevated pedestrianway. Phasing thus involves the sequencing of infrastructure improvements which have mutual as well as independent construction requirements.

The Development Unit Map (Figure 29) indicates the general sequence and areas of infrastructure and public facility improvements. Seven (7) major development units are identified. Each development unit will be composed of a number of increments of public improvement projects. The specific amount, scope and timing of development increments will be determined by such factors as the type of public facilities needed, their functional requirements, detailed planning and design studies, and the availability of funds for planning, design, land acquisition, and construction. Accordingly, the development units shown in Figure 29 may be modified or refined as such details are determined.

The phasing of district-wide public improvements will ensure that the necessary services provided by public facilities and utilities are adequate to support private developments at the time they occur. Therefore, phasing affects the direction, location and sequencing of private development. It is also the primary means whereby optimum benefits from limited public funds for facilities and utilities can be obtained. Properly phased construction of adequate public support facilities is a cost-effective way to spur private development.

In determining the location (or area) and sequence of development in a manner that adheres to a phased approach to redevelopment, the following was considered:

1. Whether the area is ready for redevelopment. Such readiness is determined by such factors as remaining life of existing structures, change in activities, lot size, remaining lease terms, market and economic conditions, interest rates, proposed joint ventures, and interest of landowner or developer to redevelop.

2. Improvement of gravity utility lines for sewerage and drainage facilities should start at the makai section of the District. Improvement of gravity utility lines upstream without any improvement downstream will create problems downstream.

3. Whether infrastructure improvements within and outside the Mauka Area are coordinated. This includes off-site regional facilities as well as connections to systems adjacent to the Mauka Area.

4. Utilities and facilities which will be installed within a road right-of-way are coordinated with the roadway improvement to avoid duplication of construction and disruption to adjacent activities and public inconveniences.

The bulk of the Mauka Area's infrastructure systems will be financed mainly through the Improvement District method. Under this method of financing, capital requirements for the needed infrastructure would be shared according to the benefits which each sector receives or gains. Over time, flexibility needs to be available to base Improvement District cost assessments according to lot area, frontage or value. Properties specifically benefiting from improvements will generally be assessed following existing methods.

So that necessary public support services will become available in a timely manner, phasing must be flexible to accommodate private development. Therefore, it shall be a policy of this plan that the construction of public facilities and utilities be phased to the extent practicable and to coincide with private development. This will facilitate redevelopment of the Mauka Area. Further, new development shall be allowed only in areas with adequate infrastructure or where the infrastructure is upgraded to accommodate the new development. In any event, no occupancy of a new development should occur before full installation of the required infrastructure which is adequate to meet the anticipated usage from such new development.

Cost of Public Facilities and Utilities for Each Phase

Estimated costs for each development unit are shown in Figure 30. The cost for each of the development units varies from one to another based on the improvements required in each unit. The units with the larger costs contain the most significant roadway construction projects and the larger park developments. The park development costs are included in these calculations since dedication requirements for new development will be a major source

for funding these facilities. It should be noted that these costs are preliminary estimates and are subject to modification and refinement as detailed engineering analyses and designs are performed.

Cost-Benefit Analysis

A cost-benefit analysis was conducted to evaluate the costs and benefits of redevelopment to the public sector. The purpose of the cost-benefit analysis was to determine the costs and benefits for the most probable amount of development which could be achieved in the Mauka Area.

The analysis compared the public costs of infrastructure construction to the public benefits of additional revenues generated by new developments through general excise taxes and real property taxes. In economic terms, the marginal costs of redevelopment were compared to the marginal benefits of redevelopment.

The analysis evaluated the costs and benefits for various rates of development which may occur depending upon economic conditions and the decisions of landowners and developers in implementing development projects. Therefore, if economic conditions improve and the rate of redevelopment increases, the tax revenues will increase and the phasing of the improvement program schedule may be modified to accelerate the infrastructure construction.

For example, the public costs of infrastructure for the District-Wide Improvement Program is estimated to be $75 million. The construction of the infrastructure will allow for more business activities and will increase the property values in the Mauka Area. The public benefits are the additional tax revenues generated by the new development. The additional tax revenues include the general excise taxes derived from the infrastructure construction, the construction of new buildings, the additional business activities which move into the new buildings, and the real property taxes derived from the additional values which result from the new development. The amount of additional tax revenues will vary depending upon the intensity of development. The probable intensity of development described below is estimated to generate approximately $1 billion in additional revenues in 25- to 30-year development period.

Given the probable development of 50 percent of development potential achieved in the initial development units and subsequent development increases to attain 70 percent of development potential, the cost-benefit analysis showed that public benefits can be expected to be between ten to fifteen times the public costs for the 25- to 30-year development period.

FIGURE 30: ALLOCATION OF DEVELOPMENT COSTS
BY DEVELOPMENT UNITS
(millions of dollars)

	TOTAL	DEVELOPMENT UNITS 1	2	3	4	5	6	7
TRANSPORTATION	77.65	1.17	16.47	17.17	25.94	15.96	0.61	0.33
UTILITY SYSTEMS	125.42	20.87	31.67	13.99	19.80	18.55	8.90	11.64
URBAN DESIGN	1.12	0.16	0.16	0.16	0.16	0.16	0.16	0.16
PUBLIC FACILITIES	208.51	-	63.81	20.97	42.45	69.54	11.74	-
HOUSING COSTS	240.13	6.43	49.31	41.81	46.10	40.74	16.08	39.66
HOUSING SUPPORT FACILITIES	3.23	-	1.07	0.54	0.54	0.54	0.54	-
RELOCATION	2.25	-	0.32	0.64	0.43	0.75	0.11	-
TOTAL COSTS	658.31	28.63	162.81	95.28	135.42	146.24	38.14	51.79

December 1981 costs